Designer

embellishments

Ripple-free Piping

To outsmart a shifty bias strip, carefully cut, fold, and pin it around a cord. Then hand-baste the pair in place

When you get down to it, piping is just a fabric-covered cord. It should be easy enough to produce, right? Well, the answer is yes… and no. This wonderful design detail that adds structure to and defines garment seams and edges can definitely be tackled by sewers of all levels. All piping is made with bias strips of fabric cut on a 45-degree angle, which are then wrapped around a filler cord, and applied to a garment.

But the very nature of stretchy bias fabric requires careful handling within the framework of those few simple steps: You'll need to choose your fabric and filler cord wisely, be exacting when you measure and cut, hand-baste as well as machine-stitch to form the piping, and then hand-baste and machine-sew again to attach it to your garment. But, believe me, these fine points are key to controlling bias stretch and are well worth the extra time they require. Your piping will be tight, even, smooth, and frustration-free—you'll never again have to rip out stitches to fix a pesky snag, fold, or ripple.

Forgo too-thick or too-thin fabrics

Before you start taming bias strips, let's talk a little about fabric choices, because not all yardage is piping-worthy. Stiff, heavy fabrics like corduroy or denim are difficult to manipulate around a filler cord, and the seam allowances become very thick, very fast. And sheer fabrics may allow the texture of the cord to show.

Your garment and piping fabrics also need to be compatible in terms of weight, drape, and texture. A nubby wool piping and a fine silk garment fabric, for instance, aren't a great pair—the wool piping would look out of place and weigh down the silk. To avoid a piping mismatch, it's always a good idea to test out fabrics in a little piped sample before you commit to using them in an entire garment.

Let the feet do the walking

As you'll see in the step-by-step instructions that follow, after you hand-baste, you can then sew the piping by machine. For this, you have a few presser feet choices: a piping foot, which works well but isn't standard for most machines, a zipper foot, or a regular foot. I use a regular foot whenever I can, as I've found that a zipper foot doesn't always exert the right amount of pressure on the fabric, which can effect the tension and create loose stitches. On my last pass of stitching, however, I switch to a zipper foot so I can sew as close as I can to the cord.

No pressing needed

After all your hard work basting, the piping will do all the work for you in creating a fine edge. Piping is meant to be gently rounded, so pressing really isn't necessary. Applying heat, pressure, and steam to a piped edge may create a not-so-gentle ridge, and the seam allowances may show though the fabric. In this rare moment of sewing construction, your hard-working iron can kick back on its heels for a well-deserved breather.

Susan Khalje (SusanKhalje.com) is the host of "Sew Much More" on HGTV, and offers many classes through The Couture Sewing School.

Can't Be Rushed

BY SUSAN KHALJE
(from issue #120)

Filler choices

Compare thickness and texture

Although filler cord is completely covered by the piping fabric, its thickness and surface does affect the final result. All of these options are fairly inexpensive, which is a good thing—you'll be using a lot of cord in your garment.

TWISTED CORDING

This white or off-white cording is sold at home-decorating centers and larger fabric stores and is available in a range of diameters. It was created for heavier home-decorating fabrics, so the diagonal cording lines might be visible through lightweight garment fabrics.

YARN

Readily available at sewing and craft stores. Choose a synthetic twist that won't shrink when washed, and isn't too furry—stray fibers can get caught in your stitching.

RATTAIL (AND ITS THINNER COUSIN, MOUSETAIL)

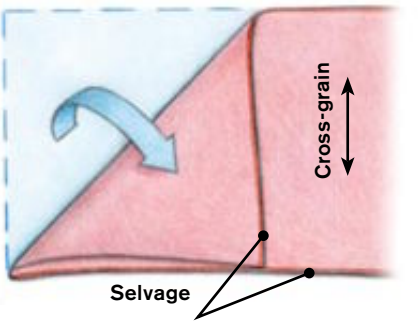
This narrow, shiny rayon cord is firm, smooth, and consistently thick so it never gets caught in machine stitching. Fabric also slides beautifully over it, which makes ruching (see p. 7) a cinch.

First Step

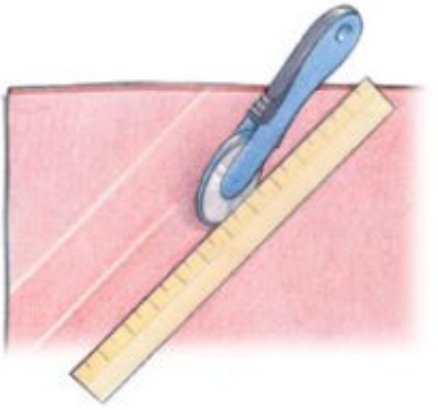
Measure and cut the bias strips

Experiment a little to see how wide to make your strips. As a general rule, cut them double the diameter of the filler cord, plus 1½ to 2 inches for seam allowances. Remember, bias strips narrow a little once they're cut, so it's better to cut them wide—you'll have better control with generous seam allowances. And you can always trim later.

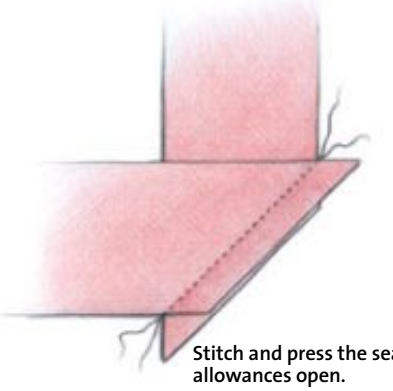
Find the true bias. To make sure the horizontal and vertical grains are at right angles, line up the fabric in a table corner. To find the true bias–45-degree angle–pick up a fabric corner and fold it so the selvage–tightly woven edge–is aligned along the cross-grain. Press.



Cut with a ruler and rotary cutter. Open the fabric, then trace the foldline with chalk and a ruler. Measure your desired width; continue until you create enough strips for your project. A rotary cutter and mat ensure that the fabric lays flat. Use the edge of the ruler as your cutting guide.



Join strips to get the length you need. To join bias strips, sew them along the straight grain, which in a bias strip is along the diagonal. The joins will be unobtrusive.



Stitch and press the seam allowances open.

Model photos: Jack Deutsch; all other photos: Sloan Howard; makeup: Sylvia Pichler; drawings: Bob LaPointe

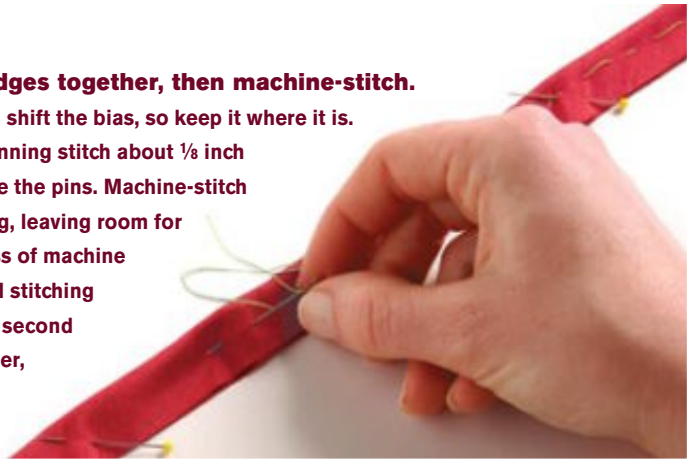
Second Step

Cover the cord

To ensure that the filler cord doesn't slip inside the bias strip as you are sewing, first tie a knot on either end.

Fold the strip over the cord. On a flat surface, place the strip right-side down. Lay the cord down the center, then fold the fabric over it. To avoid shifting the bias, first secure with a pin in the center of the strip (don't lift the fabric off the table), then one at each end. Pin again halfway between the pins, then halfway between those, and so on.

Hand-baste the edges together, then machine-stitch. Lifting the strip could shift the bias, so keep it where it is. Hand-baste with a running stitch about ⅛ inch from the cord; remove the pins. Machine-stitch just inside the basting, leaving room for a final and closer pass of machine stitching. If this initial stitching is too close, then the second row will be even closer, and the piping will become stiff.

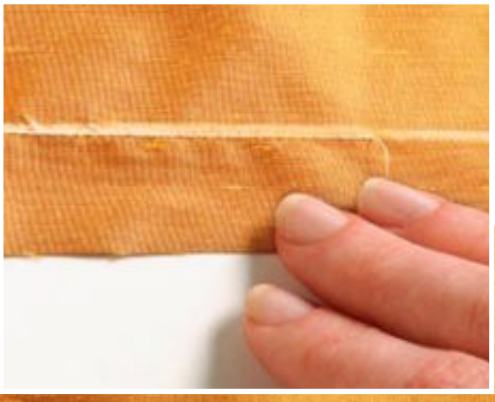


Pipe an edge or a seam. A colorful covered cord defines a neck edge and highlights an otherwise invisible seam.

Third Step

Apply the piping to the garment

In the following steps, piping is applied to the right side of one fabric layer. To sandwich piping between two layers, follow the same steps, then simply place the second layer on top (the layers will be right-sides together), and stitch alongside the last line of machine stitching.



Staystitch the garment edge. Mark the seamline on the wrong side of the fabric with chalk. Then, to prevent the edge from distorting as you apply the piping, and to give you a clear stitching path, staystitch along the line.

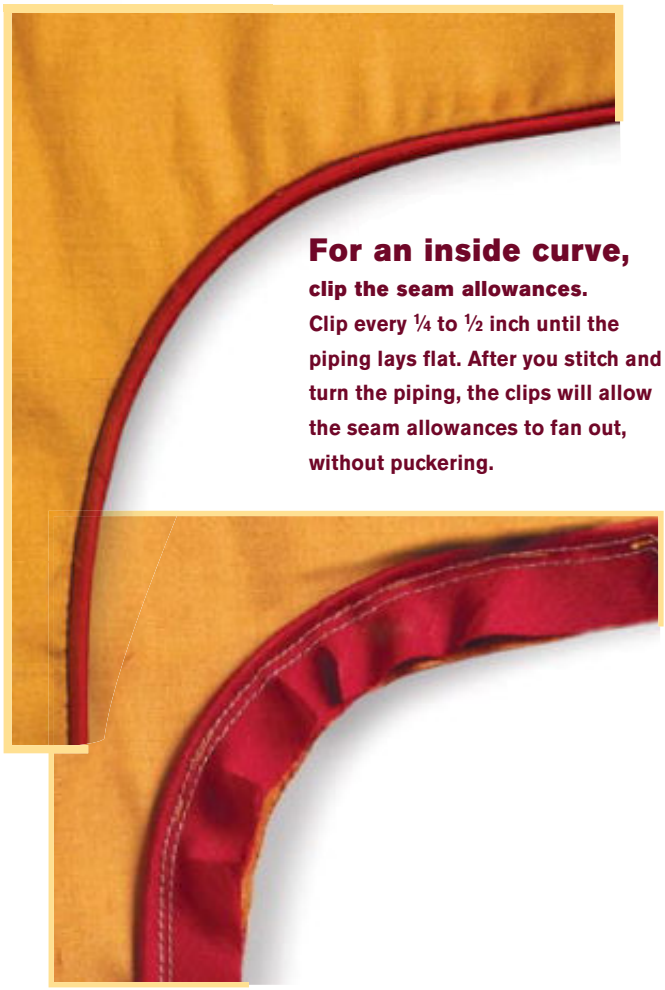
Hand-baste in place, then machine-stitch inside the first line. Pin the piping on the right side of the fabric, placing your pins just inside the initial row of machine stitching. Your goal is to match the pins to the garment staystitching. Then, hand-baste (yellow stitches) just the tiniest bit inside the staystitching and the line you've just pinned. Remove the pins, machine-stitch on top of the basting (not shown), then remove both basting lines.

(continued on the following page)

Special Details

For curves, snip seam allowances

To sew piping along anything but the straight-and-narrow, you need to snip the seam allowances *before* you sew on the piping. To get the allowances to lay flat, don't be afraid to snip right up to the stitching line.



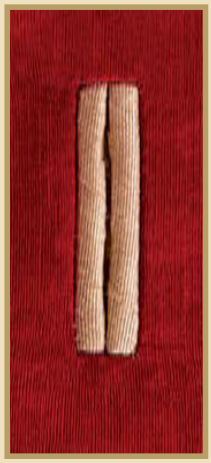
For an inside curve, clip the seam allowances. Clip every ¼ to ½ inch until the piping lays flat. After you stitch and turn the piping, the clips will allow the seam allowances to fan out, without puckering.

For an outside curve or corner, notch the seam allowances. Notch out a triangle every ¼ to ½ inch. After you stitch and turn the piping, the notches will allow the seam allowances to nestle without bulk.

Get creative

Piping lends itself to a number of striking variations. Here are some of my favorites:

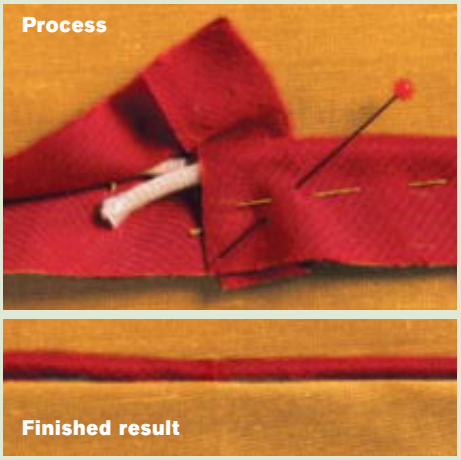
Overlap at an inside corner. While piping can be eased around an outside corner or curve without any trouble, it's not so happy in a sharp inside corner. The extra fabric tends to fold over on itself. I prefer to overlap two pieces of piping for a clean, sharp corner.



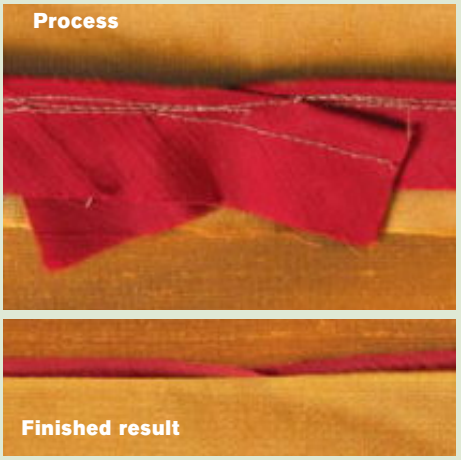
Pipe a buttonhole. For this fancy finish, first fuse interfacing to the fabric's wrong side (this will stabilize the fabric and prevent the piping ends from showing through). Then fashion two small pieces of piping and apply as you would a bound buttonhole.

Options for joining the ends

In some applications, such as around a sleeve hem or neckline, piping ends need to be joined. You have a few methods to choose from, but in all, the cord ends need to be cut so they butt up against each other. If they overlap even a little you'll get an unsightly bump.

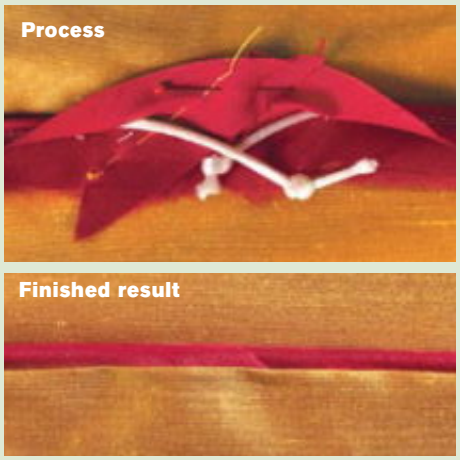


Slip one end inside the other. Press the raw edges of one end under, then slip the other end inside. Tighten the top layer of fabric to reduce bulk.



Angle and overlap the ends. You'll just need to experiment to see how you want to slope the ends.

Seam the ends. Seaming piping to the perfect length requires fiddling, as the bias strips can stretch. Loosely baste the seam until you sew right up to it, adjust as necessary, then machine-stitch.



Cover the join with ribbon. For a pretty, unusual patch, straddle the two ends with a piece of grosgrain or velvet ribbon. Tack the two ends together first so they don't wiggle loose under the ribbon.

Incorporate a knot. Tying a knot is a technique I borrowed from the home-décor industry. It's seldom seen in garments, so its presence can be very striking.

Ruch for texture. Experiment with how much extra dimension you prefer by scrunching the bias strip up on the cord; even layer strips for maximum texture. Then, to eliminate bulk, press the seam allowances flat. This also keeps the gathers in place until they're machine-stitched.

Make it a double. Simply layer one row upon another. Just remember that this does create thickness, and therefore less flexibility. Grade the seam allowances to reduce bulk.

Finger Weaving

A way to make a strong, decorative fabric without using any tools

by Karen Cody Cooper (from issue #12)

Long before the camera, 18th- and 19th-century North American artists captured colorful images of this continent's native peoples. The Eastern Woodland Indians in these paintings wear beautiful sashes, straps, turbans, and garters. Their striking adornments were finger-woven.

Modern finger weaving is usually limited to the production of long, narrow items, such as guitar and camera straps, neckties, belts, and, for traditional native Americans, dance sashes and garters to enhance powwow regalia. But contemporary clothing, as well as wall hangings, can also be finger-woven. One ambitious finger weaver has even produced a full-size bedspread.

No loom or specialized tools, no intricate knots, and no tedious counting come between the finger weaver and the work. Fingers make and hold a shed, separating raised yarns from lowered yarns, and fingers pull a selected yarn through the shed. All the weaver needs are some lengths of yarn and, to make things easier, a stick to hang them on (a dowel or pencil will serve nicely).

Finger weaving is actually a type of flat braiding that probably predates loom weaving and was practiced in many cultures. Instead of two distinct sets of elements—warp yarns and weft yarns—there is only one set. The warps take turns serving temporarily as weft. A more descriptive term for the structure is "oblique interlacing" because the yarns cross over and under one another as they travel at oblique angles to the edges of the fabric being created.

The form of finger weaving I learned from native weavers (also known as Osage braiding) produces a warp-faced, rep-weave fabric. When a yarn acts as weft, it is hidden by the tightly drawn together warp yarns. Diagonal patterns develop as the colored warps reappear in new positions. Some standard patterns are the chevron, arrowhead, and lightning.

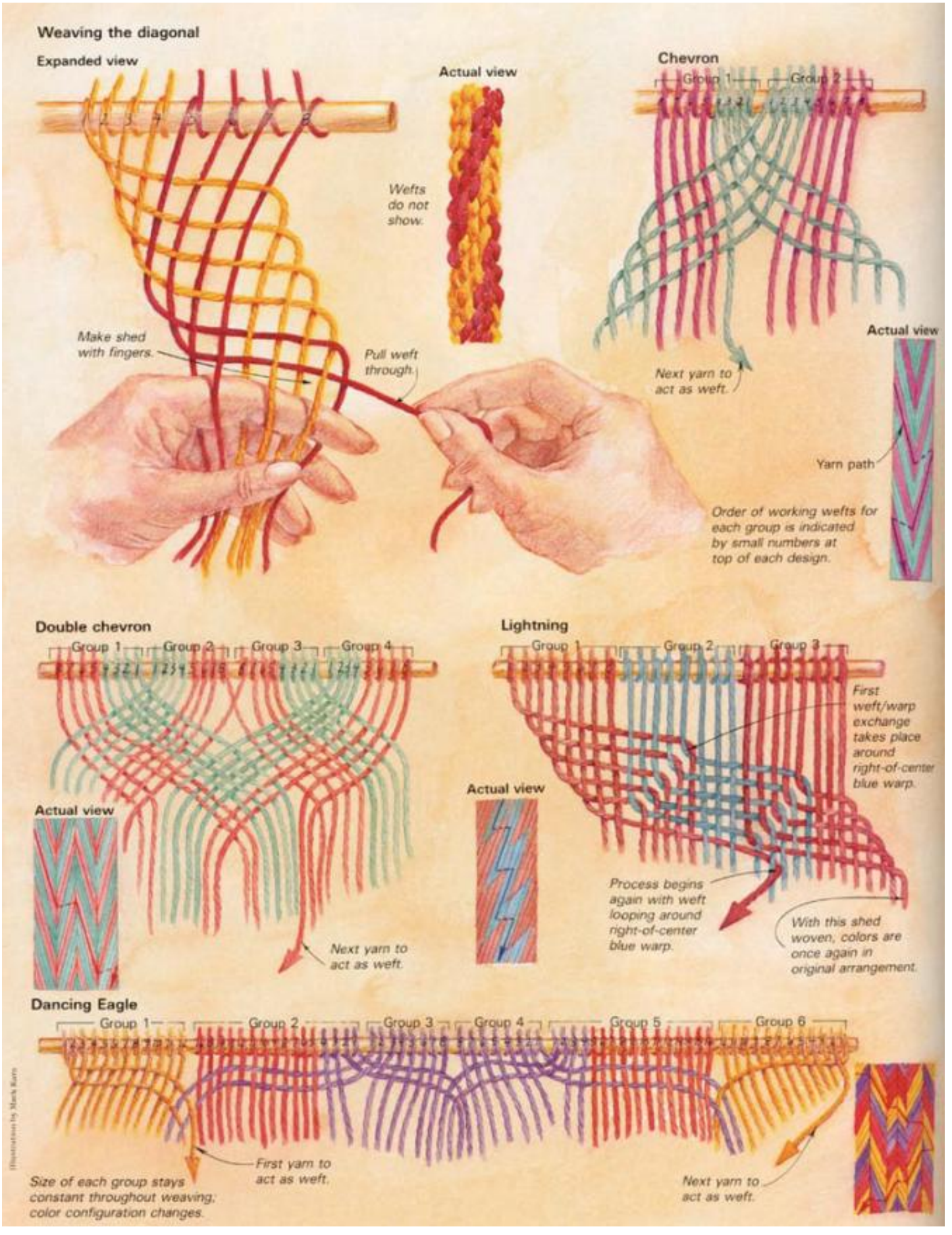
I keep discovering "new" patterns in museum catalogs, and they send me to the drawing board to decipher how they were done. There is also opportunity to create original designs. In 1982 I saw one recently developed pattern at the Oconoluftee Village in Cherokee, NC. Mary Shell, an expert Cherokee finger weaver, was producing a sash pattern called the Dancing Eagle. Slashes of color came together at intervals to create a stylized silhouette of an eagle with wings outstretched above the head. I was entranced! I made a sketch of the pattern for future reference. I was too new to finger weaving to be able to figure out how it was done. It took me two years before I could crack that pattern

Learning the technique—I will tell you how I deciphered the Dancing Eagle, but first I'll explain how finger weaving is done. You begin by hanging an even number of yarns from a stick (or, in the Cherokee method, by twining a yarn through the working yarns to separate them). I wrap the yarns once around the stick at their centers and work my way down one half. Then I turn the work around, remove the stick, and work the remaining half. This serves two purposes. It makes a symmetrical sash so that, when it is worn with the center at the shoulder (or as a belt hanging from the waist), its design faces the same way at both ends. And it is easier to manipulate 4-foot yarns than 8-foot yarns.

Let's work with 8 yarns about a foot long to see how the simplest pattern, the diagonal, is created. We'll use two colors and congregate them—4 yellows on the left, 4

The Woodland Indians of North America finger-wove colorful sashes from trade woolens. Before trade, they wove with plant-fiber cordage (dogbane, milkweed, basswood) and animal hair (bison and opossum). At left, hand-colored lithograph, "The Presentation of a Newly Elected Chief of the Huron Tribe" Canada, 1841 after H.D. Theilcke. Courtesy McCord Museum, Montreal.

At right, Karen Coody Cooper's finger-woven sashes: The Dancing Eagle is at center, at top left are two arrowhead designs, at bottom is a double chevron, and at right are variations of diagonal-patterned sashes.


Weaving the diagonal
Expanded view
Actual view
Wefts do not show.
Make shed with fingers.
Pull weft through.
Chevron
Group 1
Group 2
Next yarn to act as weft.
Actual view
Yarn path
Order of working wefts for each group is indicated by small numbers at top of each design.
Double chevron
Group 1
Group 2
Group 3
Group 4
Actual view
Next yarn to act as weft.
Lightning
Group 1
Group 2
Group 3
First weft/warp exchange takes place around right-of-center blue warp.
Actual view
Process begins again with weft looping around right-of-center blue warp.
With this shed woven, colors are once again in original arrangement.
Dancing Eagle
Group 1
Group 2
Group 3
Group 4
Group 5
Group 6
First yarn to act as weft.
Size of each group stays constant throughout weaving; color configuration changes.
Next yarn to act as weft.

reds on the right, as shown in the drawing at top left. I'm right-handed, so I form the sheds with my left hand by putting yarns alternately in front of (up), then behind (down) my index finger. Holding the shed open with my left hand, I pull the leftmost yarn through the shed with my right hand. You'll soon develop a comfortable method of working. Make the next shed: Bring all "up" yarns down, and all "down" yarns up. With both hands, tug on the two groups of warps to tighten the shed. Pull the second yarn through the shed to join its neighbor on the right. No counting is required—just look at the work. If a yarn is up, next time it must be brought down.

By repeating these steps, you will eventually transfer all the yellows, one by one, to the right of the reds. Then you'll transfer the reds in the same fashion, thus creating diagonal slashes of red and yellow.

The weft, or pass-through yarn, usually needs to be secured until it takes its place as warp in the next shed. I wrap it a few times around the end of the stick until I need it. Keep the tension consistent throughout the work by tightening up each set of warps as you make the shed. At the start, the work will narrow considerably, but once you've established a tension, the edges should remain even. As your completed work lengthens and you can no longer wrap the pass-through yarn on the stick, you can attach a safety pin to use as an anchor.

Variations — The chevron is two diagonals in mirror image. If you use 16 yarns, congregate 8 yarns of one color in the center, and flank them with 4 of the other color. Make a shed with the 8 yarns on the left, and pull through the right-of-center yarn. Then make a shed with the 7 remaining yarns on the right, and pull through the left-of-center yarn. Repeat, making the next left-side shed and passing the new right-of-center yarn through, and so on. As you make each shed, maintain the up-down alternation of the yarns across the width of the work, as shown in the drawing at top right.

After you master the single chevron, try the double chevron. Use a number of yarns that is divisible by 4. Arrange the yarns into two chevrons, side by side, to create a W pattern. Cross the two center yarns (right over left) before you begin. Weave the first two sheds of the left-hand chevron, groups 1 and 2 (see drawing at center left); then weave the first two sheds of the right-hand chevron, groups 3 and 4. By the eighth shed of each side, the two center wefts begin to fuse the two chevrons together.

You can make diamond patterns by reversing the direction of the wefts at the completion of a V in the chevron. The center yarns must exchange places at that point to prevent a hole. Also, you can produce three or more chevrons.

By adding more yarns and colors than these simple examples suggest, you can make stunning belts. The creative use of colors can cause the same patterns to appear more complex than they are. You can finish off the belts by braiding or knotting to create a fringe or by attaching a buckle to sewn ends. A good rule of thumb when you're cutting yarns for a narrow belt is to add about 8 inches to allow for length lost in the yarns' sideways travel. Wider and longer projects will require more yarn.

The Dancing Eagle—The Dancing Eagle began to take flight after I figured out I could analyze the line of travel of each yarn in multiple-chevron designs. My sketch of the sash showed a bird's head in the center and long, outstretched wings. I now realized that the key to the sash was primarily color arrangement. The Dancing Eagle was actually just three chevrons! The only thing I could not figure out was how the center chevron (the bird's head) could be smaller than the outer chevrons (the wings). I knew all the yarns must eventually visit every section of the sash. A center chevron of fewer yarns, it seemed, should throw everything out of controllable proportion. Ultimately, I began laying out 72 yarns in the following color sequence: 12 yellows, 12 reds, 24 blacks, 12 reds, 12 yellows. But I worked with them as groups of 12, 16, 8, 8, 16, 12, as shown in the bottom drawing. It worked!

However, after weaving for a while and building up the shape of the eagle, I realized the birds would be upside down when the piece was worn as a sash with the ends hanging down. I had to unweave my dozen or so rows and begin again. To solve the problem, I wove in opposite directions (from the edges in instead of from the center out). It's the same kind of reversal that's used in the weaving of a diamond.

A new puzzle — Another pattern made by an aberration of the finger-weaving technique creates patterns called lightning and arrowhead. A weft yarn travels through and loops around a designated warp that then takes up the journey through the remaining shed or itself loops around another further along, as shown in the drawing at center right. This pattern of work is repeated, with subsequent weft/warp exchanges taking place one thread to the left with each shed until the colors are again congregated in their original arrangement. Then the weaver begins the cycle again.

I am now completing another puzzler. Many fine early American Indian items have been preserved in Europe. A friend sent me a postcard from England picturing an exquisite early-19th-century Creek sash and bag. In addition to V's of blue, there were interrupted slashes of black and red between long dashes of blue. How were they made? Again, color arrangement was the key, but the technique was similar to the one that creates the lightning pattern. This sash (photo below) has no name that I can discover, but it certainly deserves a handsome one. Any suggestions?

Finger weaving is convenient because it can be carried wherever you go. It is inexpensive, and when the phone rings it can be left with no fuss. Best of all, it is rare and, of course, it is special to me because I am of Cherokee descent, and finger weaving is rich in historical legacy from American Indian cultures of the Eastern Woodlands. ❑

Karen Coody Cooper is Director of Education at the American Indian Archaeological Institute in Washington, CT. She has been replicating Woodland Indian finger-weaving techniques since 1981.

Further reading

Atwater, Mary Meigs. *Byways in Handweaving,* 1973 (out of print).

Barbeau, Marius. *Assomption Sash.* Published by National Museum Canada, 1939, 1972. Distributed by University of Chicago Press.

Lyford, Carrie A. ***Ojibwa Crafts.*** Stevens Point, WI: R. Schneider, 1982 (reprint of 1943 edition).

Turner, Alta R. *Indian Braiding: Finger Weaving,* 1973 (out of print).

Finger weaving can be done anywhere—no equipment is needed. Here Cooper works on a variation of the lightning pattern.

Use thin batting, quilt each piece separately—then sew the garment

by Mary Ray (from issue #103)

Clothing was originally quilted centuries ago for padding under armor and, of course, for warmth. Quilting is still a common way to attach warm insulation to fabric for outerwear, which is why we think of quilted garments as lofty and bulky. I've worked out techniques to create soft, supple, lightweight, and shapely garments in which the quilting lines serve as embellishment and detail.

Although it takes a little extra time, quilting is a great way to add body to delicate fabrics that otherwise might be unsuitable for certain garment styles. And you don't need to construct a separate lining. I've made lots of quilted jackets, vests, and coats, and find that the process is actually quicker than you might expect, relaxing to do, and gives me the opportunity to create unique surface designs to enhance my garment style lines.

Quilting adds body to wool crepe, resulting in a coat (Vogue 2607) that has structure without traditional tailoring.

Fashionably Quilted

In this article, I'll explain how to choose fabrics for the garment's outside and inside, and which battings work best. Most importantly, I'll share simple construction and pressing techniques that will ensure a successful garment—whatever its style.

In patterns, go for style and shape

Almost any pattern can be adapted to make a quilted garment. Don't shy away from styles that have many seams, darts, or even pleats. Although these details can add a little extra bulk when you're dealing with three layers (fabric, batting, and backing), they compensate by adding shape and detail. Princess-seamed designs are also a good choice. The only styles I would avoid are those cut on the bias, since the stabilizing effect of the quilting counteracts the drape needed for a bias cut.

You may want to make a few adjustments to the pattern you choose. If you prefer, for example, to bind the outer edges of the garment (see "Binding Notched Collars," *Threads* No. 100, pp. 52-54), you can omit facings, undercollars, and hem allowances. Or you might decide to cut the facings from nonquilted fabric, either matching or contrasting. Plan ahead for these and other alterations to save some time and effort during the quilting stage.

For fabric, think soft and light

Stiff, bulky fabrics will get stiffer when they're quilted. They're great to use to make denim barn jackets, because they'll

Lightweight and subtly textured, quilting enhances the lantern silhouette of this long skirt (original design). Pressing during construction reduces bulk.

Model photos: Jack Deutsch; makeup: Susana Perks

Cut, layer, and press

Cut your materials: Fabric (green chiffon), batting (Hobbs Heirloom Wool), and backing (brown patterned silk) should be cut at least 1 inch larger than the pattern tissue. Flip over each pattern piece as necessary to make sure both fabrics will be right side out when quilted.

Make a neat sandwich: Place batting between fashion fabric and lining and align edges; you needn't pin the layers together.

Try it out!

Create a pattern for a shaped belt, and cut batting and backing from fashion fabric. Press the pieces together, mark quilting lines, quilt, and press. Bind the edges with bias tape, and add a buckle.

Batting by mail

Hancock's of Paducah
3841 Hinkleville Rd.
Paducah, KY 42001
800-845-8723
www.hancocks-paducah.com

Quilts & Other Comforts
100 South Bay St.
Eustis, FL 32726
800-418-3326
www.quiltsonline.com

The Cotton Patch
1717 Bedford Highway
Bedford, NS B4A 3X1
Canada
902-832-0155
www.cottonpatch.org

retain their characteristic body even after washing, but in most cases I prefer fabrics that are soft, like wool or silk crepe, or fine, silky cotton. Slightly crisp silk dupioni and taffeta are other favorites that respond beautifully to quilting. I've also quilted rayon faille, coarse cotton ikats, charmeuse, and chiffon. And if you enjoy piecing fabrics, your options for surface design are nearly endless, but try to keep the component fabrics similar in weight and hand for consistent quilting.

The lining fabric should be thin and soft; your garment will drape better and be more comfortable. I prefer a slippery lining, such as a lightweight silk or a Bemberg rayon lining, like Ambiance (see *Threads* No. 99, p. 18). These allow a close-fitting jacket to slide over what you wear underneath. If the garment is loose-fitting, a smooth cotton will work as a backing.

With batting, look for thin and pliable

My goal when quilting materials for garments is to create a fabric that is supple and thin enough to be treated as any stable jacket or coat-weight fabric. I've learned that selecting the right batting is the key to getting the result I'm after. There are several different battings available that work well for quilted clothing (see "Batting by mail"), including synthetic (polyester) and natural fibers (cotton, silk, or wool). I've used a variety of these battings in my garments, and can recommend several as especially suitable for quilted clothing.

Hobbs Thermore is a lightweight polyester batting designed for garments. Fairfield Processing offers a couple of choices I like: Cotton Classic, a cotton/polyester batting, and Soft Touch, a 100-percent cotton, very soft needle-punch batting. My favorite commercial batting is Hobbs Heirloom Wool. It's soft, quilts like a dream, is compatible with drapey fabrics, and is very comfortable to wear.

You can also purchase silk batting, which is lovely and gossamer-soft. However, my quilting technique involves a good deal of

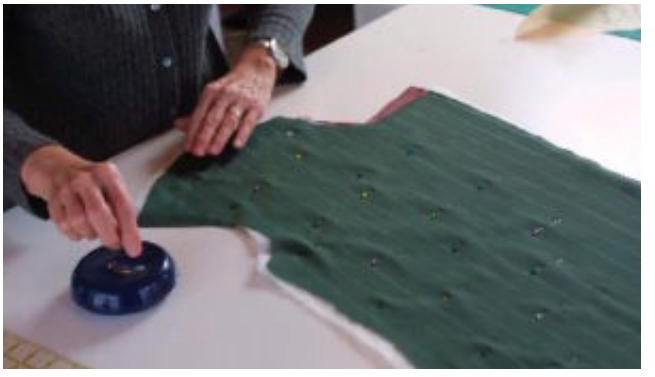
Process photos: Carol Fresia; belt photo: Sloan Howard

Press to flatten: Press, using steam, from the wrong side, then the right side, to make the sandwich as thin as possible. Batting may spread out between fabric layers.

Mark and pin

Mark grainline: Lay pattern on fabric sandwich, and mark grainline for reference before marking quilting lines. Place ruler along grainline of pattern, one end extending beyond tissue. Make a dot to indicate one end of grainline; repeat for other end, and connect the dots.

Mark quilting lines: Use a transparent ruler and non-permanent marker to draw quilting lines directly on the face fabric. In this case, channel quilting lines are marked parallel to the grainline.



Pin layers together: Place straight pins 3 to 4 inches apart, perpendicular to the quilting lines.

pressing, and I've found that the loose texture of silk batting permits the fine fibers to work their way through the fashion fabric.

I've also substituted a layer of fabric for batting; cotton flannel is an excellent choice. For an especially thin result, I've even used a lightweight cotton gauze fabric. Cotton broadcloth has a similar, stiffer effect. When you use fabric for batting be sure to preshrink it in warm water and tumble-dry it.

There are lots of choices. I suggest you make a test swatch using your fabrics and batting to see whether the combination can be smoothly quilted, and read the manufacturer's instructions on pretreating. Unfortunately, most commercial batts come in fairly large sizes (too large to purchase just for a test swatch), but if you have the opportunity to visit a sewing or quilt show, some batting vendors sell small samples.

Prepare for quilting, piece-by-piece

When I quilt a garment, I quilt each pattern section separately. This not only lets me plan the quilting lines to visually sculpt the finished garment, but it also means I'm always working with easily manageable pieces. As the photos on pp. 14-17 show, I start by cutting out the fashion fabric, batting, and backing, leaving a margin of 1 to 2 inches all around the pattern piece. Then I layer the three pieces, and press them thoroughly, using steam. This is the most important step for a flat, thin quilted garment: pressing the layers together adheres them while it flattens out the batting. Use a press cloth on the right side if your fabric requires it, and don't be afraid to press thoroughly.

After pressing I mark the quilting lines on the right side of each piece. There are times when you may want to quilt from the wrong side– if you're using a heavy thread that must be wound in the bobbin, or if you're afraid to mark directly on the outer fabric.

To guide the marks, I use either a transparent ruler for straight

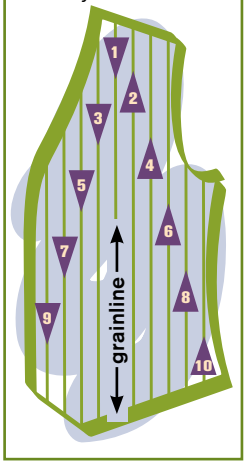
Quilt, recut, and sew

Quilt from the center outward: Start quilting on a center line. Then quilt each adjacent line. Hold the fabric tautly on each side of the needle to avoid puckers.

Iron out ripples: Steam-press quilted piece to flatten it further and to remove any ripples that formed during quilting.

QUILT FROM THE CENTER OUT…

Begin sewing on a line in the center of the garment section, then work out toward the edges, alternating sides as you go. Sew in direction of arrows, following order indicated by numerals.



lines, or a flexible curve for curved lines. My favorite marking tool is the Chalkoner, a little heart-shaped tool with a wheel that dispenses a fine line of chalk (available from Professional Sewing Supply, 206-324-8823, or *www.fabriccollections.com*). You can use chalk, a marking pencil, or a thin sliver of soap (to avoid greasy residue, choose a soap without cream). Just be sure that all marks can be easily removed.

Planning the quilting patterns is one of the most creative parts of this process. You can make any design, from simple parallel channels, as I've done for the clothes shown here, to lines that echo a garment's pattern sections. I like to make chevrons, undulating curves, and various types of grids as well. Stippling or meandering patterns offer an interesting, free-form look, and don't require marking. A quick sketch (trace your garment from the pattern envelope) can help determine the most flattering placement of the quilting lines.

The distance between quilting lines depends, in part, on the type of batting you're using: the looser the batting, the closer the lines should be. Otherwise, the garment's design influences the spacing of the lines. In general, I mark lines ½ to 1 inch apart for a channel pattern and farther apart for a grid or other cross-hatch pattern. To ensure symmetrical lines on mirror-image pattern pieces, I make guide marks at crucial points on the pattern tissue (at notches, for example), and use them to align the quilting lines.

When I have finished marking, I pin the layers together to keep them from shifting when I sew. I use straight pins, which are quick and easy to insert and remove, and place them 3 to 4 inches apart, perpendicular to the quilting lines.

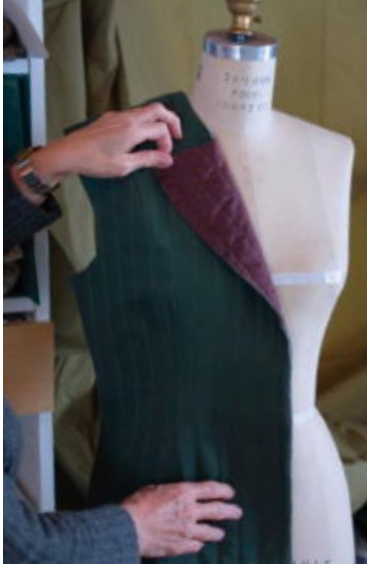
Quilting creates new fabric

Although I use a variety of materials when I quilt, from fine silks to woolen batting, I don't use any special equipment to quilt my garments. An open-toe presser foot allows good visibility, and I sometimes choose a decorative thread such as rayon embroidery thread, or even metallic thread. (You may, however, need a specialty needle to accommodate certain threads.) I simply set my machine to a stitch length of about 2mm, and sew a sample to confirm that the thread tension is correct and that loops aren't forming on the underside.

To quilt, begin sewing along a line at the center of a garment piece and then stitch along each subsequent line from the center to the outer edges. (See the diagram at left.) When all the stitching is complete, the finished piece will probably be ripply; this is normal. Just press the section again, using steam and pressure, both to remove ripples and to flatten it. Sections with curved quilting lines may retain some subtle wrinkles, but you can press straight channels quite smooth. Recut after pressing, and use the tissue pattern to be sure to keep the piece on the grain. Transfer any darts, notches, or other markings to the quilted section. I usually clip notches and the ends of dart legs, and use pins to indicate details on the interior of the piece.

Recut pattern piece: Reposition pattern tissue on quilted section; align grainline as originally marked. Cut out pattern, and transfer all necessary markings to the fabric.

Sew and press darts: Stitch darts, then press, first from the wrong side, then from the right side.



Smoothly shaped results: Your finished garment section will be light, subtly textured, and almost wrinkle-free.

Pared-down construction

Once all the pieces are quilted, I assemble the garment in the order recommended in the pattern instructions. Because the quilted fabric has built-in body, you can omit the interfacing from the jacket fronts, backs, and hems, though you may want to keep it for any facing pieces. I stitch darts just as I would with an unquilted fabric and press them to one side. Unless I plan to add a separate, hanging lining, I don't usually trim darts.

Seam and hem allowances can be finished in a variety of ways (see *Threads* No. 98, pp. 20-22). A Hong Kong finish, flat-fell seam, mock flat-fell seam, or even a serged seam allowance will be sturdy and attractive in an unlined garment. When I use a flat-fell seam, I separate the layers in the seam allowance that is to be folded over, and trim away the batting and lining to reduce the bulk.

I usually finish the outer edges of my garments with standard facings or bind them with bias binding. The only time I quilt facings is when they will show, as in a lapel. In this case, I simply quilt the fabric to interfacing and sew as I would a non-quilted fabric. I've used both standard machine buttonholes and loop buttonholes on jackets, depending on the style of the garment, but you can be as inventive as you like when choosing or making a closure. If you decide on a machine-stitched buttonhole, it's a good idea to stitch the buttonhole a second time, after it has been cut, to cover any batting that peeks through (see "Better Machine-Made Buttonholes," *Threads* No. 98, pp. 63-65).

Next time you'd like to give soft structure and subtle texture to a lightweight fabric, consider quilting it. I think this technique will help you find new and sometimes unexpected ways to turn fabric into fashion. ♦

Mary Ray teaches, sews, and designs in Tucker, Ga.

Chevron channel quilting emphasizes the gentle flare of this coat back.

Drawing: Linda Boston

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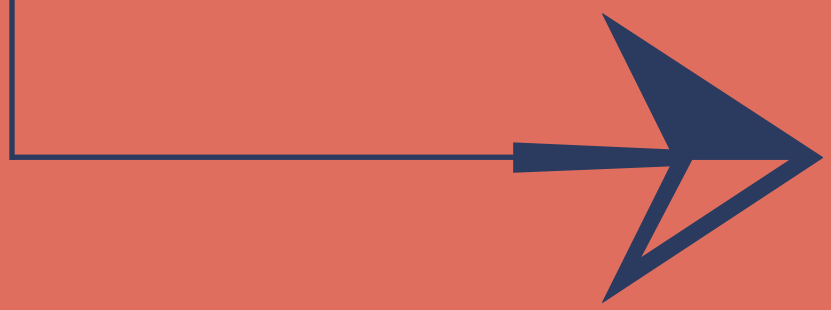


Machine topstitch for a flat, strong, decorative finish

by Pamela Howard (from issue #112)

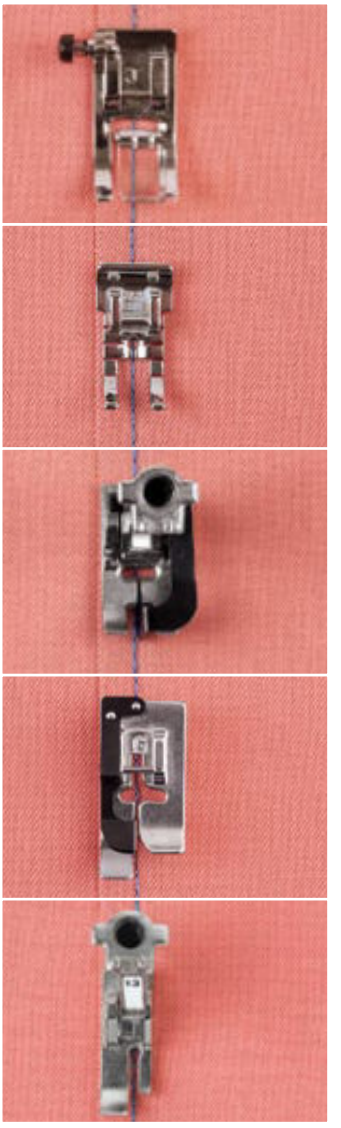
Collar edges, seams, hems, and details like epaulettes, vents, and pockets all benefit from topstitched reinforcement

In the rush to finish up a garment, it's tempting to dash off machine topstitching. But don't treat topstitching as an afterthought—the bold line of stitches gives a garment a flat, professional, decorative finish, and therefore deserves to be as carefully planned and sewn as all the other seams on your garment.

Function and fashion are on the line

Topstitching, in essence, is a row of evenly spaced straight stitches visible on the right side of a garment, and is most commonly aligned along an edge or parallel to a seam (see p. 21 for the differences between topstitching and its close cousin, edgestitching). Its main function is to anchor layers of fabric together, and thus reinforce a seam or edge and produce a very flat finish. A topstitched seam or edge holds up well to repeated wearing and washing, extending the life of the garment it finishes.

Topstitching is also an easy-to-add decorative detail. It helps draw the eye to specific areas of a garment—such as a collar or pocket—and is a real fashion statement in unexpected places, such as along darts or when sewn in an unusual pattern, such as a grid. And thread color ultimately sets the tone: Topstitching in a color that matches the fashion fabric is tone-on-tone elegant, whereas contrasting thread creates a bold, even sporty, style.



These feet are made for topstitching. You can use a few different presser feet to topstitch (from top to bottom): a standard foot, a ¼-inch quilting foot, an edgestitch foot, a blind-hem foot, and a single-hole foot for fine fabrics. (Trench coat at left, Vogue 2449)

Top four presser feet photos: Sloan Howard; all other photos: Scott Phillips

Topstitch where it best suits pattern and fabric

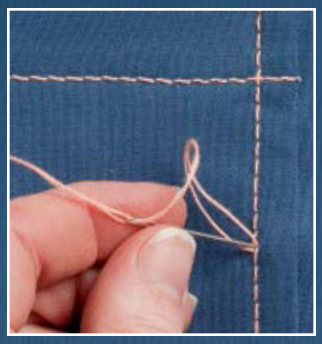
To decide where topstitching will be useful and fashionable in a garment, analyze your pattern. The instructions may include topstitching, but if not, you can easily incorporate some. Use the schematic drawings on the back of the envelope as your guide. Note all seams and edges, details such as pockets or cuffs, and other areas that might benefit from topstitching, and pencil in dotted lines on the schematic to help visualize the effect. Then study the instructions again to figure out how and when to add topstitching to the construction process.

Also consider how topstitching will work on your fabric, keeping in mind that topstitching shows up best on tightly woven

How to fix a mistake

Topstitching accidents happen: your machine may hiccup and produce an imperfect stitch, it can run out of thread, or you may simply stitch off course, as shown above. Luckily, a topstitching goof is easy to fix, and no one will ever suspect that you had to stop and start again.

When your topstitching goes awry, simply stop sewing (don't backstitch), and cut the thread ends about 3 inches long, as shown. Gently separate the top and bobbin threads in the undesirable stitches, making sure you don't break the threads. Position your machine needle at the end of the last good stitch (don't backstitch), and continue to stitch to the end. Thread the two top threads onto a hand needle (as shown) and pass to the wrong side of the garment; tie off the threads to secure.

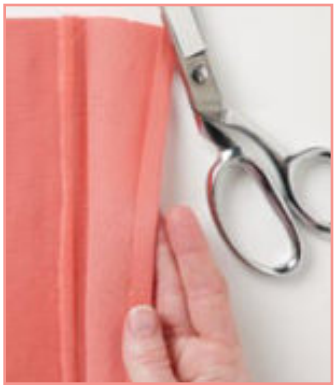


Topstitching step-by-step

Shirt plackets (shown), seams, and all sorts of edges can be anchored and embellished with topstitching.

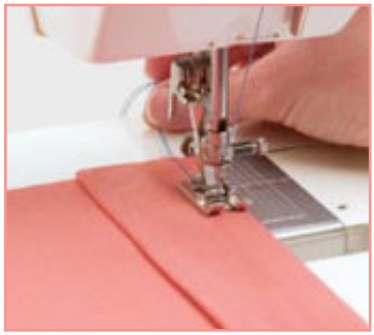
1. Press and trim the seam allowances to reduce bulk

Press under the seam allowance on the edge; trim it to be slightly wider than the desired margin between the edge and the topstitching. Press the placket in place from the right side of the garment using a press cloth.



2. Hold the threads taut as you begin to stitch

Place your garment right side up under the presser foot, with its edge ¼ to ⅜ inch to the right of the needle (use the seamline marks on the throat plate or the edge of the presser foot as a guide). Hold the thread tails to prevent them from bunching up under the garment, and with the needle down, begin sewing (don't backstitch). Gently pull the threads to move the fabric evenly over the feed dogs. After about 2 inches, release the threads and continue to sew, making sure the garment edge is aligned with the seamline marks or foot edge. ***(continued)***



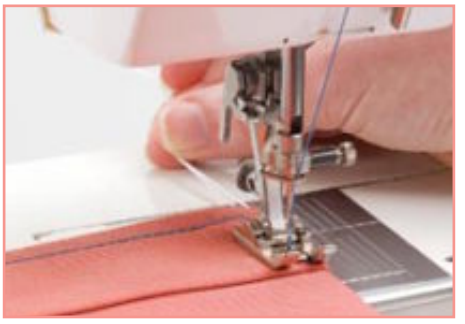
TIP Use an inexpensive guide to keep your stitching straight

To ensure a straight line of stitches if your topstitching margin is greater than the widest seam guide on the throat plate, simply tape an index or business card to your sewing machine at the appropriate distance from the needle. Align the garment along the card edge as you sew.

Topstitching (continued)

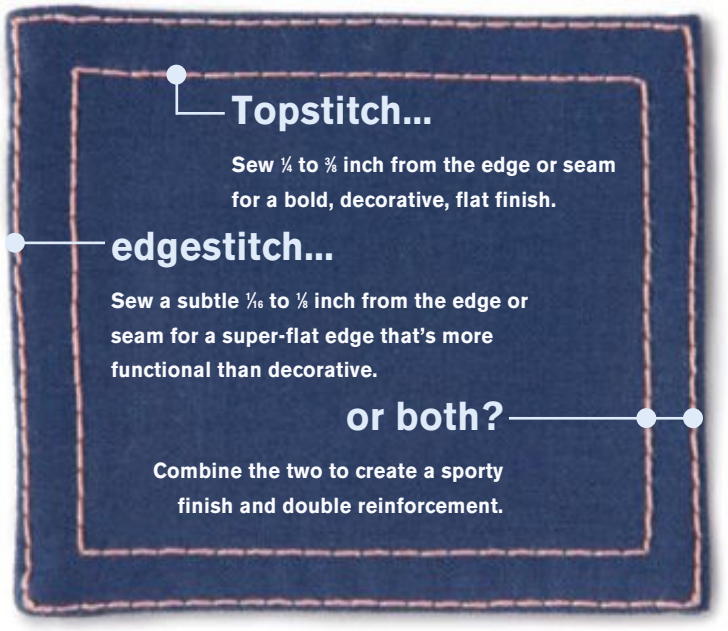
3. Turn corners with a tug line

To ensure that the fabric doesn't jam in the feed dogs when you turn a corner, thread a double length of thread on a hand needle and insert through the corner, leaving thread tails. Topstitch up to the turning point, stop with the machine needle down, lift the presser foot, pivot the fabric, and then drop the presser foot. Tug the thread tails as you sew away from the point.



4. Finish by tying off the thread ends

Sew right to the edge of your fabric (don't backstitch), and tie the thread ends in a square knot, as shown. To secure threads in an open area, thread the top thread onto a hand needle and pass through to the wrong side of the fabric; tie the threads to secure.


Topstitch...
Sew ¼ to ⅜ inch from the edge or seam for a bold, decorative, flat finish.
edgestitch...
Sew a subtle 1/16 to ⅛ inch from the edge or seam for a super-flat edge that's more functional than decorative.
or both?
Combine the two to create a sporty finish and double reinforcement.

fabrics (such as denim, cotton shirting, linen, or wool suiting), and tends to get lost in high-pile or loosely woven fabrics.

Use the right thread and needle

You don't need elaborate materials or tools to achieve professional-grade topstitching. A sewing machine that can sew a straight stitch is the only requirement. Some sewers like to mark topstitching guidelines on their fabric with a chalk or fabric marker, but I don't find that necessary. There are a variety of presser feet available that make easy work of topstitching with an even margin between the stitches and the seam or edge (see p. 19), but a standard, all-purpose foot is just fine.

I like to topstitch with a strong polyester or silk-finish cotton thread; that way I can simply use a machine needle that's appropriate for my fashion fabric. If you want topstitching to really stand out, use thicker threads (two strands of polyester or silk, or one strand of buttonhole twist or home-décor thread) and a topstitching needle with a large eye.

It's always a good idea to topstitch a scrap of your fashion fabric to fine-tune the machine tension and stitch length. I've found that the secret to puckerfree topstitching is a longer-than-usual stitch: somewhere between 3 to 4mm. Once set, follow a few foolproof steps to sew flat, even topstitches (see "Topstitching step-by-step" on p. 20). If you are topstitching along a seam, press the seam allowances to one side (or open to topstitch on both sides of the seam), and trim to ¼-inch wide or slightly wider than the desired topstitching margin. Then use the edge of the presser foot to align the stitching parallel to the seam.

Check one last time

Always take time to check your stitches to make sure they're all even and straight. If you find a mistake, don't fret—you can fix it in no time (see p. 20). Perfect machine topstitching takes patience, but a strong, beautifully finished garment is definitely worth the time and effort.

Pamela Howard teaches sewing in the metro Atlanta area.

In-Seam Buttonholes

Leave small spaces in a well-placed seam to conceal–or celebrate–a closure

In-seam buttonholes easily combine function and decoration.
The author has let her pieced design determine an unconventional button arrangement.

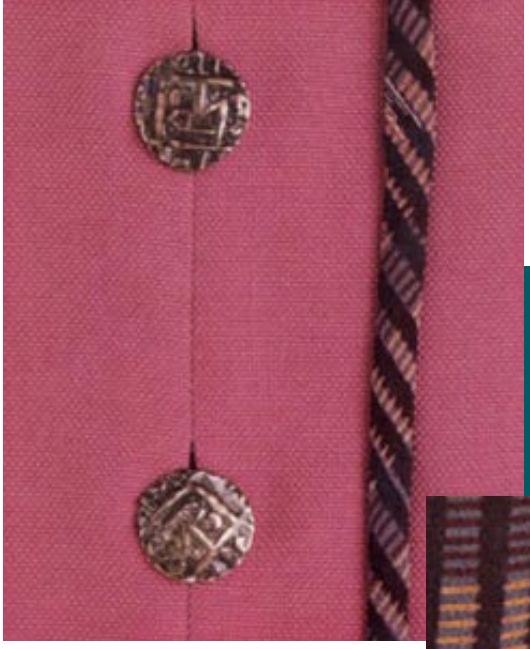
by Lois Ericson
(from issue #103)

Rethinking the closure is among my favorite ways to add spice to any pattern. And one of the easiest ways to do this is to convert an ordinary buttonhole into an in-seam buttonhole, in which the opening for the button is just a reinforced space in a seamline's stitching, like those you can see in the above photo. Let's look more closely at what's involved in making such a buttonhole, and consider how this simple idea can be expanded to become the focal point on your next project.

First, place your seamline

The first step in making an in-seam buttonhole is locating or creating a seam close to or exactly where you want one or more holes. Common structural seams that intersect a front or back closure, such as those at neckline (collar-to-bodice) and waistline seams (bodice-to-skirt or waistband-to-skirt) are obviously good candidates. But in other cases, you'll need to add a seam in order to position in-seam buttonholes where they are needed, for instance along the center front of a blouse. If you know precisely where you want your buttonholes to be, you can simply draw the necessary additional seamline(s) on your pattern piece and then cut the piece apart. Add seam allowances to each side of the divided pattern and you're ready to cut your fabric and sew it back together leaving precisely positioned spaces, as in the top photo on p. 43. The spaces should equal the preferred length of a conventional buttonhole for your chosen buttons. I reinforce each end of the spaces by backstitching as I'm sewing the seam.

A more freewheeling approach is to cut and form a buttonhole seam in an interesting way on a large piece of fabric, then position your pattern over the seam and cut it out where it looks best. With a little forethought about appropriate buttonhole spacing and approximate seam position, this can allow you to fine-tune your seam placement visually after you know what your new seam looks like. I like this approach when I'm allowing my project to evolve slowly, letting each design decision shape what comes next, as opposed to working out an exact plan. If you want



A basic in-seam buttonhole is just a space in a pressed-open seam. On the reverse side, each facing piece is hand-sewn to the seam allowance of the front. Alternatively, sew the facing/lining pieces together the same way you do the outside pieces, leaving corresponding spaces for the buttonholes, then tack the spaces together by hand.

maximum freedom to position the buttonhole seam, it's important not to fix the shape of, or cut out, the underlapping button piece until the overlap is finished.

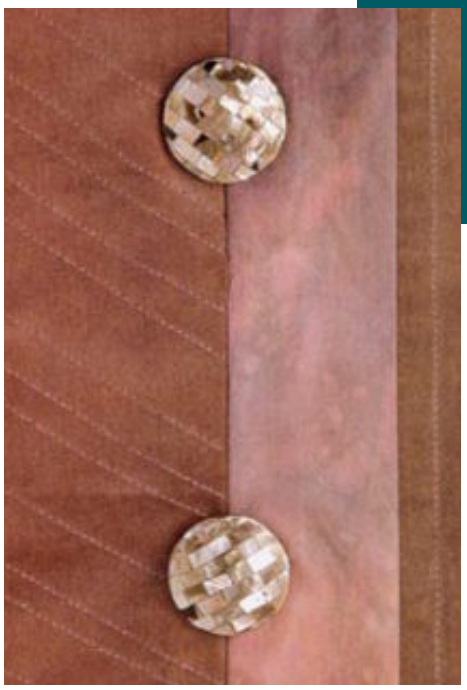
Finish with a carefully cut facing

The simplest way to finish the wrong side of an in-seam buttonhole is to cut the facing (or facing and lining) pieces the same shapes as the top pieces. Then stitch them together leaving corresponding spaces and tack the layers together at the buttonhole lips. Or turn under and hand-sew each facing seam allowance to the top seam allowance along the length of the buttonhole seam. This is what I usually do, as you can see in the top right photo, because it seems easiest.

To see or not to see the seam?

A straight, vertical seam cut at center front, with the same fabric on each side of the seam, can make for almost invisible buttonholes. But I find any seam hard to resist as an opportunity for design, so I usually attempt to make my added seamlines interesting, either by curving them or piecing on a band of contrasting fabric, or both. The examples in the photos at right demonstrate these options.

A contrast fabric strip pieced along the buttonhole seam adds drama to the in-seam buttonhole. Cut the strip on the bias to easily follow a curved seam. Piece strips to one or both sides of the seam, and make them as wide or narrow as you like.



Of course, you can have multiple added seams, and these seams can also intersect, so you can make your buttonhole seaming as complex and visible as you like. Let us know if you come up with something particularly smashing! ♦

Lois Ericson writes and designs in Reno, Nev. You can contact her at www.designandsew.com.

Photos: Scott Phillips

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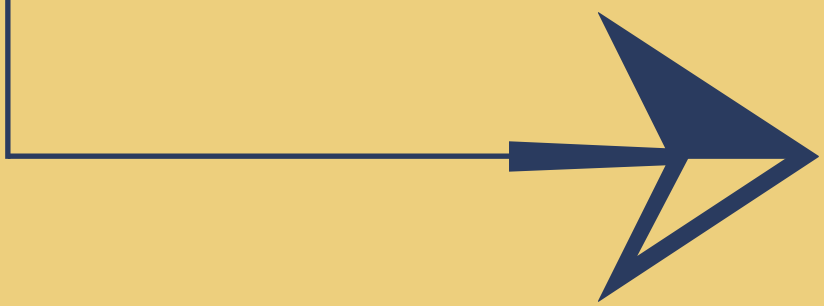


All That Glitters

Shisha by machine

This long blouse is decorated with handsewn shisha and silk-and-cotton embroidery. It was made by the Harijan clan of Kutch, India, in the later 19th or early 20th century.

By Robbie Fanning
(from issue #1)

"Indian embroidery seeks to engage in a contest with the sun," said 19th-century writer Théophile Gautier, "to have a duel to the death with the blinding light and glowing sky. At all costs its duty is to shine and glitter and to send forth the prismatic rays: it must be blazing, blinding and phosphorescent—and so the sun acknowledges defeat." This battle is fought with tiny mirrors called shisha, which are held to the fabric in a cage of stitches.

No one has yet documented how these mirrors came to be used in Indian embroidery or who developed the technique. In *A History of Textiles*, Kax Wilson claims that the mirror work originated with the hill tribes of southern India, who sewed beetle backs onto wedding garments. Orthodox Hindus, disapproving of this practice, used pieces of mica instead. Eventually bits of glass or mirrors were used.

Author Jacqueline Enthoven believes that shisha was developed by clever servants who admired the jewels embroidered onto the maharanis' clothing. At first they probably salvaged chips of broken jewelry. Later, the mirrors were manufactured and practically everyone could afford them.

The most charming story is Jean Simpson's in *Shisha Mirror Embroidery.* Shah Jahan erected several buildings with rooms of mirrors, called shish mahals (palaces of mirrors). His wife, Mumtaz Mahal, developed the technique of shisha embroidery so the shah's beloved mirrors would appear on clothing, pillows, and wall hangings. When she died, the shah built the Taj Mahal as a monument to their love and a mausoleum where they could be together forever. Later, Shah Jahan was overthrown by a son who imprisoned him across the river from the Taj Mahal. From there, the shah was only able to view the resting place of his dead lover by gazing at one small shisha mirror embedded in the wall.

Shisha embroidery is practiced all over India, Pakistan, and Afghanistan. In some regions, bright-colored peacocks, elephants, and flowers are embroidered around the mirrors; in others, the designs are geometric and the colors subdued. But no matter what the variation, shisha work is always laden with mirrors, and applying them by hand is a time-consuming task.

Caryl Rae Hancock, of Vienna, VA, has devised a quick, clever way to attach shisha with free-machine embroidery. In this technique, the fabric is not advanced by the machine's feed dogs as you stitch; instead it is manipulated by hand so that you are almost drawing with thread. On a piece of organza, you stitch a circle slightly smaller than the shisha. Next, you cut out the circle's center and free-machine embroider satin stitches. Then you cut around the outside of the circle and lay the organza ring on the shisha, which has been glued to the foundation fabric. You straight-stitch to attach the shisha to the fabric and free machine embroider again to hide the edges of the ring.

To apply shisha by machine, you need a zigzag machine with a size 10/11 (70) needle and thread that matches the fabric. I use extra-fine machine-embroidery thread. The bobbin thread will show, so use the same color in the bobbin as you

Fig. 1: *With the stretched side of the organza down, trace around a shisha. Remove the shisha, and glue it in place on the right side of the foundation fabric.*

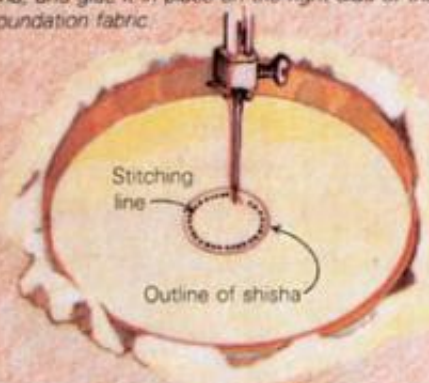


Fig. 2: *Slide the hoop under the needle. Position the needle just inside the traced line—up to ⅛ in. inside if you're using ½-in. shisha or larger.*

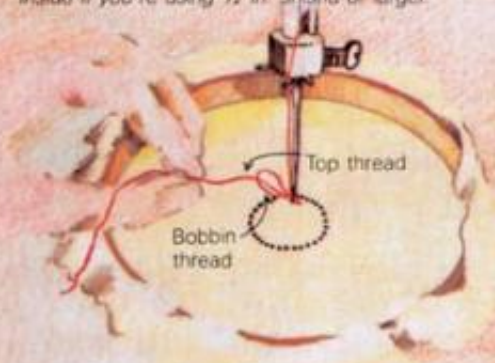


Fig. 3: *Hold the top thread in your left hand and turn the handwheel to pull up the bobbin thread. Lower the presser-foot lever (easy to forget if you're not using a foot), or the machine won't form a stitch. Set the machine for a straight stitch, 0 length and width.*

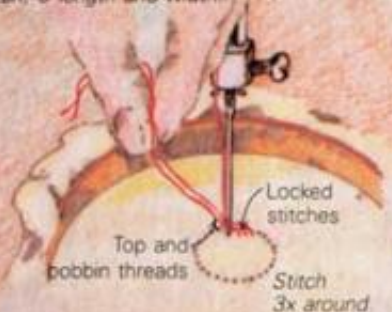


Fig. 4: *To lock the initial stitches, hold both threads in your left hand, stitch three times in one place, and cut off the thread ends close to the fabric. Now stitch three times around, inside the traced line, to anchor the hole you will cut in the organza.*

Fig. 5: *Slide the hoop out from under the needle. Carefully cut out the inner circle close to the stitching with embroidery scissors.*

Fig. 6: *To hide the organza's raw edge, set the machine for a medium-width zigzag stitch. Lock the threads, and free-machine stitch around the edge. Turn the hoop as you work.*

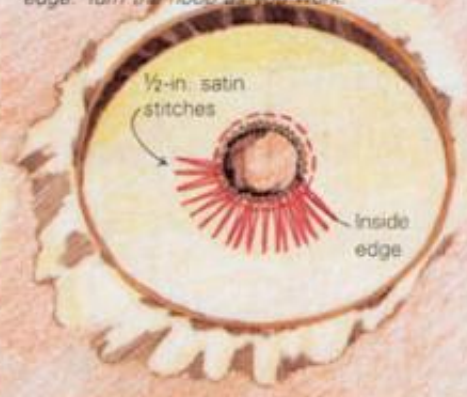


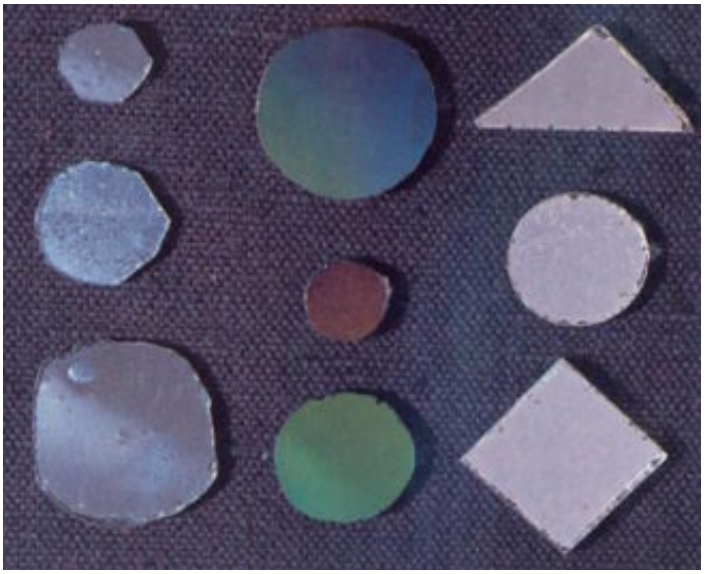
Fig. 7: *Using a medium-width zigzag stitch, free-machine embroider ½-in. satin stitches around the circle—this is your only chance to fill out the stitching and cover up the organza backing. Lock the threads, remove the organza from the hoop, and cut around the stitching, trimming close to the edge. Reset the machine for straight stitching.*

Fig. 8: *Place the stitched ring over the shisha on the foundation fabric, and pin it in place. Make sure the edges of the shisha are covered, or someday it will pop out.*

Fig. 9: *To secure the shisha, slide the foundation fabric under the needle, lock the threads, and straight-stitch around the edge of the shisha over the embroidered ring.*

Fig. 10: *Hide the outer edges of the organza with zigzag stitches that feather onto the foundation fabric. You can also finish the edges with a straight stitch in any continuous-line design, such as loops, running the machine fast and moving the fabric slowly.*

(Illustrations by Paula Lazzari)



There are three kinds of shisha: antique (left); rainbow (center), available in a variety of colors; and perfect (right), available in a variety of shapes.

The shoulder flaps on this 20th-century cotton blouse, or chola, lift up out of the way so a heavy load can be carried comfortably. This garment was made by the Lambadi clan of Gujarat, India.

used to thread the machine, or choose complementary colors. You need a 6-inch to 8-inch machine embroidery hoop or a screw-type hoop—one that's not too large to work with on your machine. You need a piece of organza, a foundation fabric heavy enough to support the mirrors, a pencil or fade-out pen, and a glue stick or white fabric glue.

Shisha mirrors are available in three forms: antique, perfect, and rainbow. They range from about ⅜ (9mm) to 1 inch (25mm) in diameter. *Antique* shisha are the best for embroidery because they're washable and lightweight. They are hand-cut into small disks from silvered glass blown about 1 foot in diameter, and their imperfections—uneven edges, irregular sizes, surface bubbles—are part of their charm. *Perfect* shisha, as their name implies, are perfect. Mass-produced in round, square, and rectangular shapes, they are thicker than antique shisha. They're also not washable, so if you put them on clothing, you must have the garment dry-cleaned. *Rainbow* shisha are two-sided: a plain mirror on one side; a colored mirror on the other. Either side may show.

To apply shisha, set your machine for free-machine embroidery, as you would for darning: Use a straight stitch with 0 length and width or a medium-width zigzag stitch, as shown in the drawing on the facing page. Lower or cover the feed dogs, and either put on a darning foot or use no presser foot at all. If you loosen the top tension slightly, you will decrease the chance of dropped stitches.

Once you have mastered the techniques, you can prepare organza for four mirrors at the same time. Use a piece of organza that fits over an 8-inch to 10-inch embroidery hoop, and position the shisha so you won't stitch too close to the edge of the hoop.

Instead of organza, you could use WSS, Aqua-Solv, or Solvy—transparent, plastic fabrics that dissolve with water. After the shisha are in place, spray the mirrored areas with water. (For a moment the stabilizer will look like melting jellyfish, then will disappear.) Make sure that you've secured the zigzag stitches with the straight stitches (Fig. 9), or they will flap loose.

To create a different look, or if you don't have a zigzag machine, you can hold the shisha in place with a nonfrayable fabric like felt or a material like leather or Ultrasuede. Trace the shisha on the underside of the fabric and cut a hole slightly smaller than the diameter of the shisha. Then trim the fabric at least ⅛ inch larger than the shisha. Place the ring of fabric over the shisha that you have already glued to the foundation fabric, and straight-stitch (or zigzag) around the edge of the fabric

You can put the foundation fabric in a hoop to make the free-machine embroidery easier, but as the fabric becomes covered with shisha, you won't be able to position the hoop without breaking a mirror. If you're decorating clothing, especially necklines or other edges, attach the mirrors before cutting out the pattern pieces. ❑

Robbie Fanning is the author of Decorative Machine Stitchery *and a contributing editor of* Threads *magazine.* *She wishes to thank Jerry Zarbaugh and Jacqueline Enthoven for their assistance. The historical examples are from the collection of The Museum for Textiles, Toronto.*

Recommended Reading

Elson , Vickie C. *Dowries from Kutch/A Woman's Folk Art Tradition in India*. Los Angeles: UCLA, Museum of Cultural History, 1979

Enthoven, Jacqueline. *Stitches of Creative Embroidery.* New York: Van Nostrand Reinhold, 1964

Gross, Nancy D. and Fontana, Frank. *Shisha Embroidery/traditional Indian Mirror Work with Instructions and Transfer Patterns.* New York: Dover Publications, 1981.

Simpson, Jean. *Shisha Mirror Embroidery/ A Contemporary Approach.* New York: Van Nostrand, Reinhold, 1978.

Wilson, Kax. *A History of Textiles.* Boulder: Westview Press, 1979.

Mail-order sources of supply

Jerry Zarbaugh/Aardvark
P.O. Box 2449
Livermore, CA 94550
Shisha, Indian threads, books, newspaper subscription (Aardvark Territorial Enterprise) .

Gail Kibiger/Sew Craft
Box 6146
South Bend, IN 46660
Shisha, machine-embroidery supplies, quarterly newsletter.

Janet Stocker/Treadleart
25834 Narbonne, Suite 1
Lomita, CA 90717
Machine-embroidery supplies, bimonthly magazine (Treadleart).

Imports by Clotilde
237 SW 28th Street
Ft. Lauderdale, FL 33315
Unusual sewing supplies.

Origami to Go

by Glenda Scott (from issue #65)

Cloth origami is quick, more forgiving than paper origami, and surprisingly durable. Start with the simple wedge purse at bottom, above; refine your skills with the dollar-bill purse at center; then tackle the more complex triangular purse at top.

You've probably heard of origami, the ancient Japanese art of paper folding that produces intricate paper ornaments. I've long been an origami enthusiast but felt a bit stymied by the limited selection of traditional origami papers available. Then, while staring at my own stash of printed fabrics, I had a sudden inspiration: Why not try stiffening fabric and substituting it for paper? Eureka! The birth of the process I call cloth origami.

By reproducing the folds of origami in textile form, you can create functional items for yourself or great gifts like the purses on these pages. And because fabric is more durable than paper, your folded accessory will have a long life.

Cloth origami is virtually error-proof. If the folds don't cooperate on your first try, relax. There are very few mistakes that a hot iron won't fix.

Which fabrics fold crisply?

Most fabrics made of natural fibers—cotton, wool, or silk—hold a sharp crease and therefore yield the best results in cloth origami. My favorite choice is all-cotton broadcloth, but I've also had success with cotton eyelet, worsted wool, taffeta, and brocade. Avoid napped fabrics like silk velvet or cotton corduroy. They don't iron easily and therefore won't readily take a crease.

Synthetic fibers, like nylon, acrylic, polyester, and microfiber, don't perform as well because they don't readily absorb the stiffening agent, which I'll discuss in a moment. Be aware, too, that synthetic blends, like polyester/cotton or wool/nylon, won't crease as crisply as all-natural fibers. Most rayon fabrics, like crepe and challis, fold nicely into origami accessories, but it's a good idea to test a 2-inch square of any fabric before you start a project.

Tips for selecting a fabric—If you plan to use a print, be sure to relate the size of the finished item to the scale of the print. A small item will look most pleasing in a tiny print, and vice versa if you want to scale up one of these purses or make another, larger accessory.

If you've fallen in love with a shiny or iridescent silk, taffeta, or organza, be prepared for the stiffened fabric to lose its luster, though it will retain a special beauty. And if you choose a fabric with metallic fibers, be sure it's blended with a natural fiber so it'll fold crisply.

Let the origami begin!

First, gather one or more fabric squares ranging from 6 to 25 inches, depending on the dimensions your accessory calls for, and a bottle of fabric stiffener (available at most crafts stores). I like Stiffy brand because it doesn't need to be diluted (which can alter the degree of stiffening).

For drying the fabric, you'll need a piece of fine-woven screen at

Photos by Scott Phillips; illustrations by Christine Erikson

By stiffening fabric, you can fold it into decorative, one-of-a-kind accessories

least as big as your largest fabric square (I buy window screening by the foot from the hardware store). You'll also need an iron, scissors or rotary cutter, and an old credit card or other spreader (available at paint stores) to apply the fabric stiffener.

And, in order to cut consistently sized and truly square fabric pieces, you'll need to make a template from cardboard or mat board, or purchase one at a quilting-supply store. Finally, a grommet-installation tool is helpful if you want to attach a cord to a purse, as I did for my wedge and triangular purses at left.

It starts with the stiffener—Begin by cutting the fabric into one or more shapes, usually squares, according to the instructions. (Directions for the purses start at right; also see "Books with origami patterns" on p. 31.) Add 2 inches to allow for error; for example, if the instructions call for a 12-inch square, initially cut a 14-inch square.

Lay one fabric square on a flat, washable surface. If the instructions call for several squares, repeat the following process for each one: Pour 2 tablespoons of stiffener in the center of the fabric square, and spread it from corner to corner with the spreader until the fabric is saturated. If you need another drop or two to reach the corners, add it. But don't pour too much stiffener, or you'll end up with milky globs on the fabric surface (scrape off any excess).

Place the fabric on the screen to dry. If the fabric becomes so dry that it slides off when you tilt the screen, add more stiffener (before the stiffener dries on your counter, sink, or spreader, clean it up with water).

For accessories in which both sides of the fabric show, consider "laminating" two fabrics, wrong sides together, to get two right sides. Immediately after applying the stiffening agent to the first fabric square, add a second, contrasting square on top. Pour additional stiffener on the top square and spread it through both pieces at once. The fabric squares may buckle slightly as they dry on the screen, but they'll iron out. Laminated fabrics are doubly stiff and best suited to larger items.

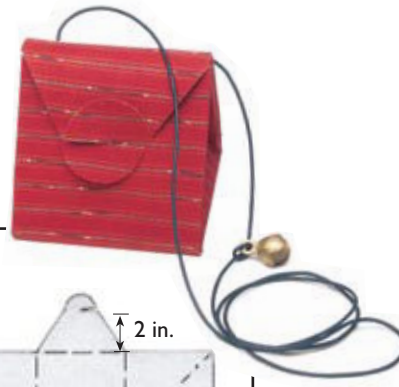
Contemplate your template—While you're waiting for the fabric to dry, prepare your template (if you're making rather than buying one), cutting it to the size needed for the origami pattern you've chosen. Since the template regulates the size and shape of the squares, it's imperative to cut it accurately. Use a T-square, triangle, or gridded cutting mat to check the template's straightness.

If you want to enlarge or reduce the finished accessory, adjust the dimensions of the template accordingly. There's no reason you can't double the size of a small origami pattern in order to create a more substantial accessory.

A paper model for practice

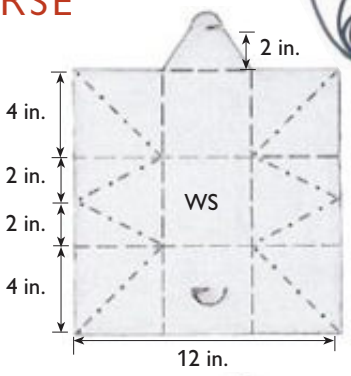
Making a paper model will not only serve as a practice session but will also demonstrate the finished size of the piece and offer a "canvas" on which to experiment with embellishment. Use any crisp, plain paper like typing, butcher, freezer, or wrapping paper. Cut a piece to the size of your template and follow the instructions to fold the paper square into the intended origami shape.

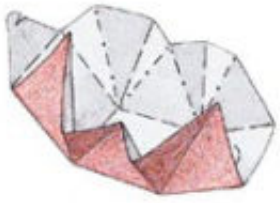
From paper to fabric—When the stiffened fabric is dry, steam-press it. The fabric will become limp as you apply heat but will restiffen and set its shape as it cools, so transfer it quickly to a flat surface. When the fabric has cooled, trace the template outline on the fabric's wrong side and cut it to size.



WEDGE PURSE

This easy purse can be scaled to various dimensions. Lightly pencil-mark desired dimensions on the wrong side of the stiffened fabric. Cut and fold as shown.





To make handle, apply two grommets to top back, thread cord through grommets, and knot.

Wedge purse directions adapted from Gift Wrapping: Creative Ideas from Japan by Kunio Ekiguchi, Kodansha International; see "Books with origami patterns" on p. 49.

DOLLAR-BILL PURSE

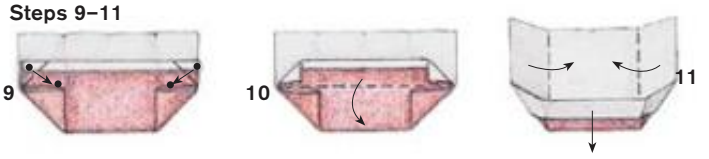
A 13-in. square makes a flat purse that's exactly the size of a dollar bill, but you can use any size square. This design showcases both sides of a fabric.

Steps 1–8

1. Pinch top center. 2. Fold and unfold sides, like cupboard doors. 3. Pinch left center. 4. Pinch midpoint between 3 and top edge. 5. Pinch midpoint between 4 and top edge.

6. Fold bottom edge to 5. 7. Fold each bottom corner up to cupboard folds. 8. On front layer only, fold forward 1/2 in. of raw edge to create hem.

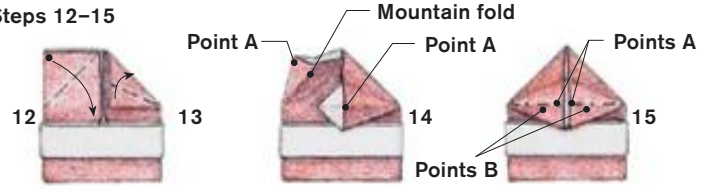
Steps 9–11



9. Fold down corners at hem edge so front layer's raw edges lie along upper edge of triangular flaps from step 7. Leave small gap between edges.10. Bring down folded edge of hem, creating fold that runs through gap in step 9.

11. Lay model flat. Slowly pull front toward you, opening purse. Let cupboard doors start to close. As you close doors completely, reverse direction of folded edges at bottom.

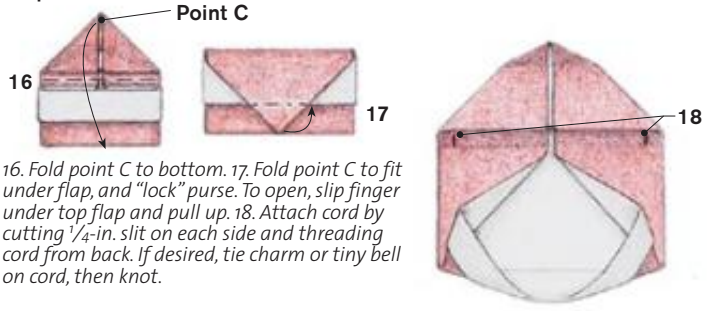
Steps 12–15



12. Bring corners down on each side, creating house fold. 13. Fold roof back up on each side. Slightly unfold steps 12 and 13. 14. On right side, grasp mountain fold* that juts out.*

Pull front layer down, moving point A from top outside corner to center, using existing foldlines. Insert triangle under raw edge. Repeat for left side. 15. Tuck point B under bottom of roof.

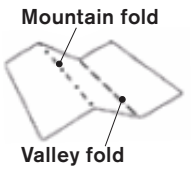
Steps 16–18

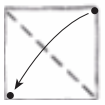


16. Fold point C to bottom. 17. Fold point C to fit under flap, and "lock" purse. To open, slip finger under top flap and pull up. 18. Attach cord by cutting 1/4-in. slit on each side and threading cord from back. If desired, tie charm or tiny bell on cord, then knot.

**See key at left.*

***Key for directions**





Fold, matching dots.

Fold, then unfold.

Next, follow the instructions, pinching and folding in the correct directions. If the pattern calls for a series of complex folds, it may help to pencil-mark the foldlines on the fabric's wrong side. On dark fabrics, use a white marking pencil.

As you make each fold, use a burnishing tool or the side of a pen to crease it. If any of the folds are less than perfect, you can iron out and refold them. The thickness of the fabric often affects the precision of the folds, so don't be discouraged if you find refolding necessary. Finally, a quick press with the iron and a tiny drop of fabric glue in strategic spots will secure the crucial folds.

The finishing touches

You'll probably need a handle of some sort for a purse, and there are several options: You can thread a decorative or self-fabric cord through a metal grommet (for the triangular purse, I made grommet holes in both the "lid" and "box" and fed the cord through both, so the lid slides up the cording to open). Or you can punch a pair of appropriately sized holes through which to feed the handle, and hand- or machine-embroider the holes with an eyelet stitch to finish them off. In either case, make a knot on each end of the cord to anchor it inside the purse.

Surface-design magic

Once you've mastered the cloth-origami process, you can further personalize the accessories you make with surface embellishments. Here are some ideas, but you'll doubtless discover others once you begin experimenting.

Get out the paintbrush—Apply paint to the fabric before stiffening it, trying one or more of the following techniques:

Dollar-bill purse directions adapted from Origami: Creative Ideas for Paperfolding by Gay Merrill Gross, Friedman/Fairfax Publishers; see "Books with origami patterns" on p. 31.

• Wet the fabric with water and use liquid acrylic paint to get a watercolor effect.
• Print repeated designs with woodcut blocks or rubber stamps. Or create your own stamp from an eraser, wine cork, or potato.
• Stencil designs on the dry fabric with acrylic paint.
• Crush sheets of paper, dip them in paint or dye, and sponge or roll them on the stiffened fabric.

Add a few elegant beads—When selecting a fabric for your cloth origami, look for a distinctive pattern that lends itself to beading. I often choose a fabric that features contrast flowers so I can highlight the center of the flower with a few beads, but classical patterns, geometric designs, and hand-woven fabrics bead well, too.

Plan your beading on the paper model, making the placement as simple or as complex as you want. Use a pencil to mark the areas where you want to place the beads. Then unfold the model, transfer the marks to the cloth origami, and sew the beads in place on the stiffened fabric.

Back to the ironing board!

Cloth origami accessories provide a range of creative challenges. As your imagination fires up, head for the library or bookstore and check out the origami section. Once you've mastered the principles of fabric folding, you can transform any functional design conceived for paper into fabric fashion accessories. ♦

Glenda Scott, of Richland, WA, presents workshops on cloth origami throughout the Pacific Northwest. Her E-mail addresses are GDScott@aol.com and www.owt.com/GDScott.

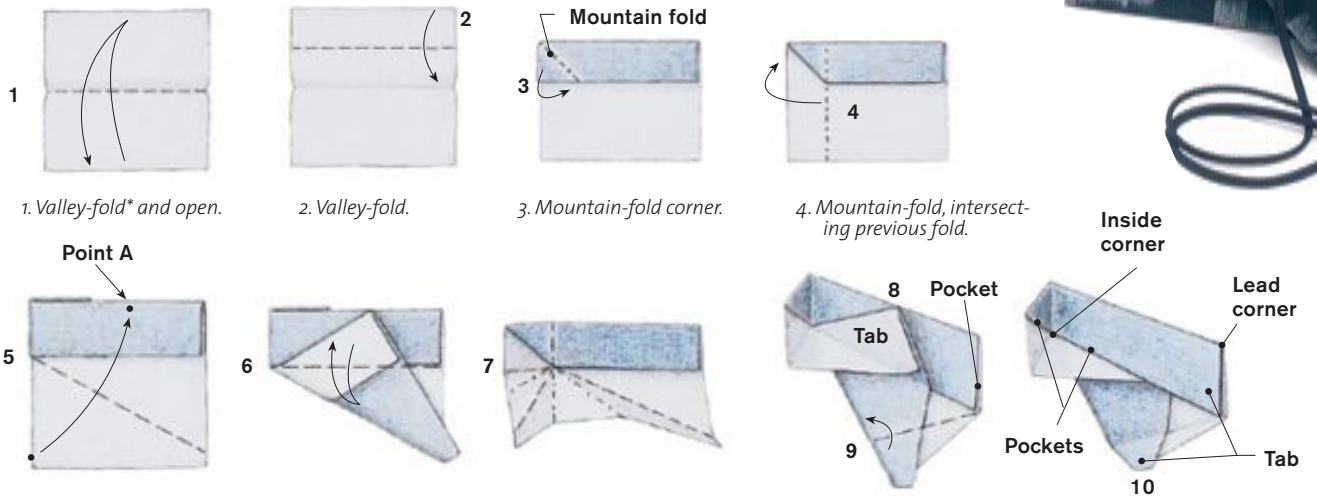
Books with origami patterns

Gift Wrapping: Creative Ideas from Japan by Kunio Ekiguchi. Tokyo and New York: Kodansha International, 1985.

Origami: Creative Ideas for Paperfolding by Gay Merrill Gross. New York: Friedman/Fairfax Publishers, 1994.

Origami Boxes by Tomoko Fuse. Tokyo: Japan Publications, 1989.

TRIANGULAR PURSE

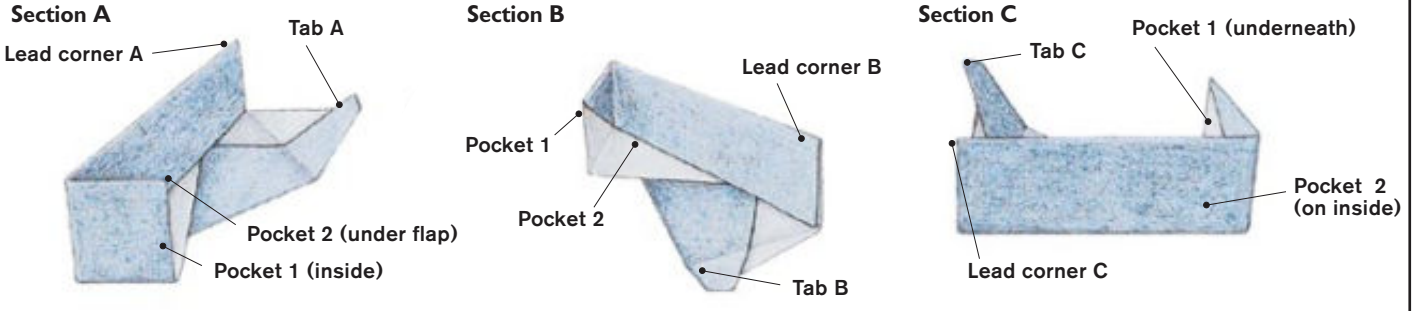


1. Valley-fold and open.* *2. Valley-fold.* *3. Mountain-fold corner.* *4. Mountain-fold, intersecting previous fold.*

5. Following foldline 5, fold corner up to point A on top line. *6. Fold back all layers along foldline at 6. Unfold back to step 4.* *7. Fold, noting direction of each foldline.* *8. Tuck tab into pocket. 9. Fold at 90-degree angle, matching dots. 10. Finished unit; make six.*

Purse assembly:

Arrange three completed sections on flat surface with tabs in center. To assemble, tuck corner A into pocket 1 on section B. Simultaneously tuck tab A into pocket 2 on section B. Repeat for two remaining sections to form lid. Assemble base in same way. To create liner for base's interior: Cut mat-board triangle to match dimensions of purse base. Using mat board as pattern (and adding 3/8 in. on each edge), cut fabric triangle. Cover mat board with fabric, tuck under side edges, miter corners, and secure with glue. (For handle ideas, see text on p. 48.)



*See key on facing page.

Triangular purse directions adapted from Origami Boxes by Tomoko Fuse, Japan Publications; see "Books with origami patterns" at right above.

Introducing Kenneth D. King

Master of Ornate Couture

Sandra Betzina gives us an inside look at the career of this distinguished designer and popular teacher

by Sandra Betzina (from issue #108)

If you've been a *Threads* reader for any length of time, you've no doubt seen an article or two by Kenneth D. King, such as his story on seams and finishes for sheers (*Threads* No. 106, pp. 40-41), on easy welt pockets (*Threads* No. 72, pp. 62-64), or on boned bodices (*Threads* No. 46, pp. 52-56). But none of these could do more than hint at the creativity of this celebrated and prolific designer who happens also to be a generous mentor to home sewers through his articles, books, classes, and as co-host of a Vogue- and Bernina-sponsored PBS television series that first ran in 1993. I've been a friend and admirer of Kenneth's for over 20 years, and so I leaped at the opportunity to bring the *Threads* readership up-to-date on his amazing work as a hat, clothing, and home furnishings designer. For a further taste of Kenneth as a teacher, turn to p. 55 of *Threads* No. 108 for his Master Class article on cord and bead embellishments.

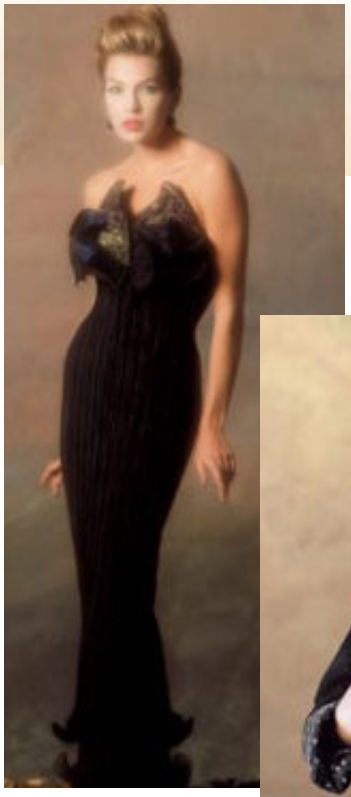
From Barbie dolls to Macy's windows

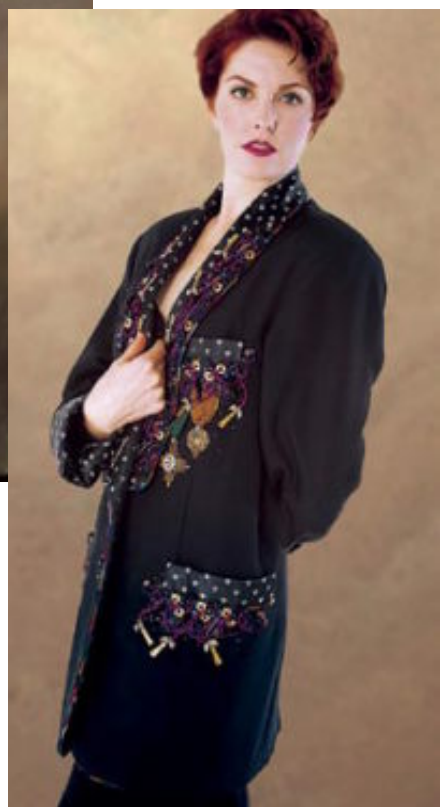
Kenneth D. King's first fashion-design projects were created when he was about five years old: costumes for a Barbie doll. "My Barbie was never a teenager; she was 27, and she only wore evening clothes because she never went out in the

Kenneth King and Sandra Betzina, above, are longtime friends.

The "soufflé" style: Made from 20 yards of black synthetic organza over an iridescent green and black matelassé, there are only two short hidden seams in the exuberant peplumed jacket at right. The ruffles have monofilament-covered rolled hems, and the little flecks of gold glimpsed throughout are evidence of the rivets used to create the smocking.

The Orchid Hat, right, is made from 40 yards of rattail cord on a buckram base, with a vintage veil. In a Czarist Mood Hat and Muff Set, middle right, in smocked silk velvet, was inspired by Russian fashion; it features extensive cord and bead embellishment.





King's creations, shown above from left, include this unlined coat made in the **"soufflé" style,** which shows how transparent this construction can be. **The Mermaid Dress** was inspired by a fluted carnival-glass vase. It has a crocodile-pleated iridescent silk taffeta bustier with embellished panels over a pleated black charmeuse body. **The Dinner Jacket** is one of a line of softly tailored, embellished shawl collar jackets that feature adjustable turn-back cuffs. These jackets are always made with hand tailoring and without fusibles–steps that guarantee the longevity for which King's garments are known.

daytime." After earning a degree in fashion merchandising, he worked as a window display designer, eventually for Macy's. "Display work was really wonderful—it exposed me to all kinds of materials. I learned to mix paint to match colors, arrange flowers, do drywall, and cover anything with padding and cloth. My handbag-, furniture-, jewelry-, and box-making techniques come out of this training."

Off to make hats...

In 1985, after five years of display work, Kenneth was ready to strike out on his own, by designing and making hats, such as those on p. 32. From the beginning, his hats were crafted with an understanding that each creation, no matter how fantastical, must also be functional. "The customer comes in because the pieces are beautiful, but they come back because they're not troublesome... they're balanced, secure, not too heavy; you can put them on and forget them."

The Maxfield's era

Customers responded enthusiastically, and by 1989 Kenneth was selling his creations at Maxfield's in Los Angeles, where he was soon discovered by the store's Hollywood and jet-set clientele. Cloris Leachman, Geena Davis, the Sultan of Brunei, the Royal Family of Saudi Arabia, and Elton John were early collectors. Kenneth has designed many pieces for Elton John.

Over the 11-year course of his relationship with Maxfield's (during which his designs were also carried at Wilkes Bashford in San Francisco and Ultimo in San Francisco, Dallas, and Chicago), Kenneth produced many design lines (such as the Dinner Jacket shown in the photo above). Requests for unique garments were frequent. His Mermaid Dress, above center, created for such a request, was acquired by the Los Angeles County Museum of Art for its permanent

collection. Other King pieces are in the permanent collections of London's Victoria and Albert Museum, and San Francisco's De Young Museum.

The next challenge: Transparency

In 1995, Kenneth was ready for new techniques and designs. Most of his previous work used many layers of fabric. From now on, he would work only on sheer fabric. The construction, now completely on view, would be as attractive as the design. Could organza be smocked without the thread showing? Could a complex garment be made with a minimum of seams?

Kenneth then created two complex and innovative techniques which he refers to as "soufflé" and "leafing." Soufflé is a combination of classic and proprietary fabric manipulations, such as smocking with small rivets instead of thread, whose endless permutations enable him to create a complex garment which is seamless or nearly so. While Kenneth is understandably reticent to reveal his new technical discoveries, he says, "It's actually the pattern-making for the soufflés that's most challenging, but the manipulations would be impossible without using all-synthetic fabrics." Recent examples are shown at the far left and top left photos on p. 33. Leafing is Kenneth's secret way of creating a unique fabric shaped into the form of the garment. By sculpting small pieces of synthetic fabric into a dimensional shape, an absolutely seamless garment can be created; a recent example is at left.

The "leaf" style dress, at left, features a totally seamless top, fabricated from countless pieces of cut organza "magically" fused (King isn't telling) into a formfitting shell, with no underlayers. The charmeuse skirt has a leaf-enhanced organza hemline.

The fur boa with hidden pockets, below, is made from fox fur and black crushed taffeta, with jet-bead mesh and hand-built tassels; the boa is boomerang-shaped to fit gracefully across the shoulders.

A visit to King's workshop

A unique experience begins the moment you enter Kenneth's well-appointed sitting room. Plush velvet seating in jewel tones showcases his intricate braid- and beadwork. Walls faux-finished in a subtle gold overlay display a wide assortment of antique clocks.

In these elegant surroundings, Kenneth's clients finalize their wishes with the aid of beautifully displayed current work, portfolios, and sample pieces. Once the piece is decided upon (prices range from $2,000 to $10,000), Kenneth takes a complete set of measurements from which to draft a "moulage," a basic pattern. From start to finish, three to five fittings are required.

When not fulfilling a commission, Kenneth experiments, filling huge notebooks with step-by-step samples, which he affectionately refers to as his "lab notes." Currently, these are focused on complex cutwork techniques. He continues to explore innovative seam treatments. I can't wait to see what new glories emerge from them. ♦

Sandra Betzina writes and sews in San Francisco.

Top photo on p. 32: John Bagley; all other photos: from the collection of Kenneth D. King

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Tambour Beading

Simple chain stitches worked with a hooked needle hold strands of beads to fabric

by Jan Bryant (from issue #44)

When I was young, my mother had a friend who had beaded every gown that her daughter, an entertainer, wore on stage. I remember standing next to my mother's friend and leaning against the work table that held her beading frame, fascinated as she hand beaded the fabric for a dress. Much later, I met a designer who was looking for someone to help him bead dresses. He hired me and taught me how to bead with a tambour hook.

Over the years I've learned more about tambour beading and have developed the technique to the extent that I now teach the skill to others. To help you get started, I'll explain the basics: how to make a beading frame and stretch fabric onto it, and how to work a basic stitch—the chain stitch. You can practice making beginning and ending knots and beading on a piece of polyester chiffon that is stretched onto a homemade frame (see the instructions on p. 38). And when you're satisfied with your level of skill, you'll be ready to try your hand at creating a beaded garment.

For tambour beading, you work the chain stitches with your hook (see the inexpensive version on the facing page) on the wrong side of the work, anchoring the threaded beads on the right side. The advantage of tambour beading versus beading with a regular needle is that although it takes some time to master the hand motions, once these are learned, the beading proceeds much more quickly. The chain stitch is a locking stitch, which holds each bead firmly in place.

Photo by Susan Kahn

Beading on stretched fabric with a pointed hook, called tambour beading, is the most efficient technique for ambitious beaded projects like the black chiffon jacket with gold bugle beads at right. This article will get you started.

An inexpensive tambour hook and handle

A tambour beading needle needs a sharp point, unlike the blunter point of a tambour crochet hook. A shortened industrial machine-embroidery needle (No. 80, series 253M) (bottom of photo) makes an excellent tambour hook when inserted into a metal razor handle like the Excel USA, about $2 at art supply stores. Red nail polish painted on one quadrant of the handle vise marks the needle face position. Traditional wood (about $15) or metal handles also work, but the single screw tends to bend the needle. You can order a needle by mail from Jan Bryant. Send a check for $3 per needle and a self-addressed, stamped envelope to PO Box 8162, Los Angeles, CA 90008. The plastic tip cover that comes with the Excel handle is great for protecting the needle when it's not in use. To shorten the needle, break the shaft where it begins to thicken. Grip the threaded shaft with pliers, grasp the muslin-covered point and thin section, and snap the needle in two.

Beads

There are many different types of beads available, but whether they are the tubular bugle beads or circular seed beads, I like to use silver-lined, colored-glass beads because the silver makes the beads sparkle. Beads that are painted on the outside tend to lose their color, and the paint will rub off on your hands during beading.

For tambour hook beading, always buy beads in hanks, rather than loose. A hank has ten or more strings of beads tied together at the top in a simple knot that allows you to pull out one string of beads at a time. You're going to transfer the beads to your working thread, so don't remove the beads from the hank strings. If you are just getting started in beading, I recommend that you use No. 2 silver-lined bugle beads—a size that's easy to work with. These are the beads that I'm using in this article.

Fabric

While you can bead many different fabrics, polyester chiffon is one of the best fabrics to use for practice or for fancy garments. It is strong, and the holes made by the tambour needle do not spread (as they would in silk chiffon) and can be closed if you rub them with your fingernail. Chiffon in any color but black is transparent, so you can see what your hand underneath the fabric is doing. (Don't get black chiffon for your practice piece.) All that you need to try out the beading is a small rectangular piece, a half yard at most.

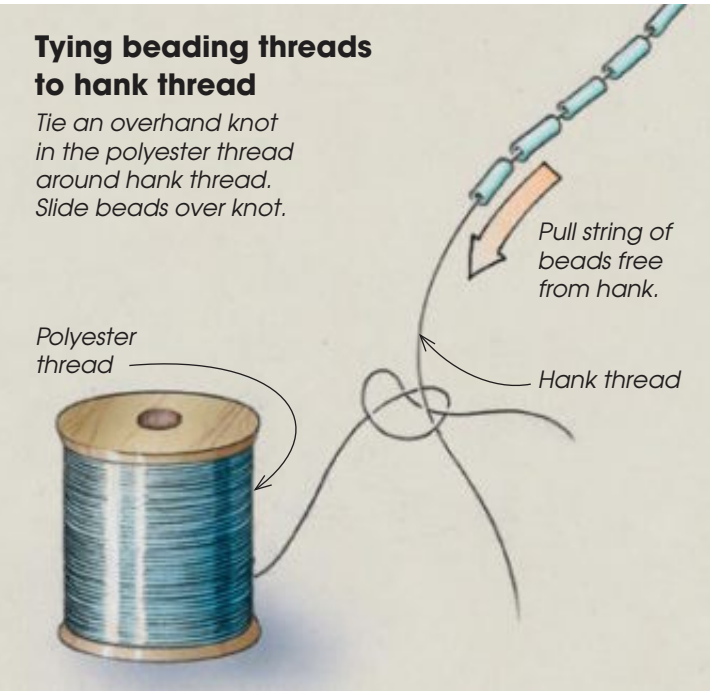
Transferring beads to the beading thread

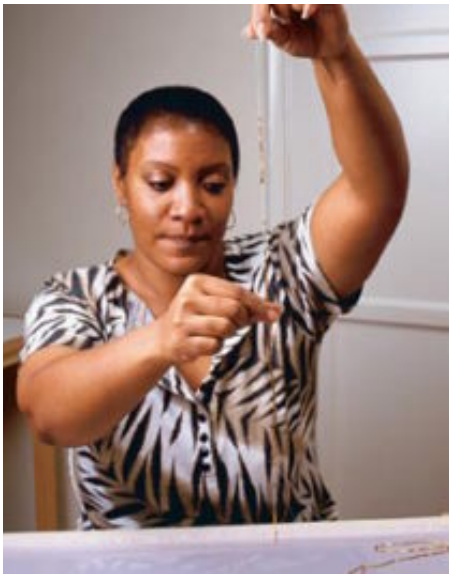
Once you've made a frame and stretched your fabric, as shown in the drawings and photo on p. 38, you're ready to prepare the beads for tambour use. Place a spool of beading thread on the headless nail that you've hammered to the frame support or frame. I use 100 percent polyester sewing thread (Metrosene) for strength, in a color that matches the fabric. Never bead with the string the beads come on, because it is weak and will break.

Transfer a string of beads from the hank string to the beading thread, as shown in the drawing and photo at right. You can work with up to two strands of beads on your beading thread at a time, but never more. If you string more than two, the weight of the beads will cause the spool of thread to unwind.

Basic beading movement

For tambour beading, you hold the tambour needle in your dominant hand above the beading frame (see the


Tying beading threads to hank thread
Tie an overhand knot in the polyester thread around hank thread. Slide beads over knot.
Pull string of beads free from hank.
Polyester thread
Hank thread

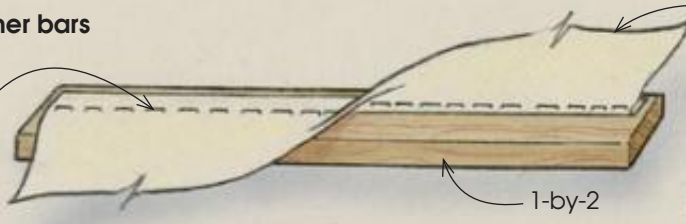


Transfer a strand of beads to polyester sewing thread by carefully sliding the beads down the hank string, over the knot between the beading and hank string, and onto the poly beading thread, as author Jan Bryant does here. Moving slowly ensures that the knot stays in place and doesn't release to scatter beads all around the room.

Making a tambour beading frame and stretching fabric

These instructions will make a frame 25 by 38 inches. All the supplies are available at hardware and fabric stores. You'll need the help of another person to do the final tightening of the fabric.

Making stretcher bars



1. *Staple a muslin strip to each 1-by-2.*

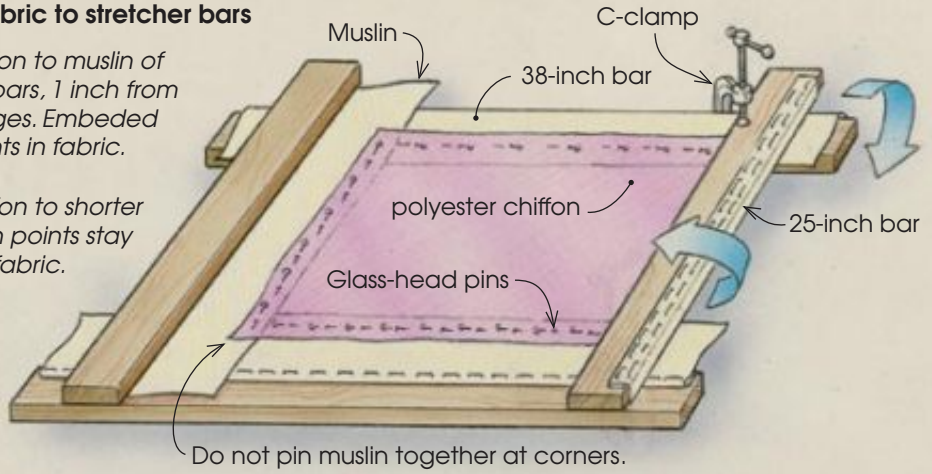
2. *Fold over muslin and staple again. For 25-inch bars, staple a third time.*

3. *Turn over 25-inch bars once; concealing pins; Turn under the 38-inch bars once. Clamp at each corner just to hold.*

Pinning fabric to stretcher bars

1. *Pin chiffon to muslin of longer bars, 1 inch from raw edges. Embeded pin points in fabric.*

2. *Pin chiffon to shorter bars. Pin points stay above fabric.*



4. To stretch the fabric so it's drum tight, *work one corner at a time. Grasp the ends of the bars and push the bars outward, as if closing a pair of gardening shears. A second person clamps the corner tightly with a C-clamp.*

5. *Now rest the frame across two saw horses or two table tops of equal height. Hammer a 2½-inch finishing nail (a headless nail) partway into the saw horse at the far left corner of the frame, or into the frame itself if you are resting the frame on tables. If you're left-handed, put the spool at the far right corner.*

Supplies

- Four pieces of 1-by 2-inch clear pine: two 25 inches and two 38 inches long
- Unbleached muslin: two strips 6 by 25 inch, two strips 6 by 38 inches
- Four 2-inch C-clamps
- Staple gun
- Glass-head quilting pins
- Rectangular piece of polyester chiffon, about 18 by 36 inches
- One 2½-inch finishing nail

photos on the facing page). Your other hand will be underneath the frame, handling the thread and the beads. Since I am right-handed, I've given instructions for holding the needle in the right hand. (If you are left-handed, reverse my instructions.)

The left (or less dominant) hand works the thread. The beading thread feeds up between the index and middle finger, over the index finger, and down between the index finger and the thumb. Hold both parts of the thread between your thumb and middle finger.

To work the hook, you'll need to pivot it, turning the face forward, backward, or sideways in relation to the design line. Except when starting and ending a line of stitching (at most, equal to the length of two hank strands of beads), you'll always insert the needle with the hook facing forward along the line; catch the thread with the hook turned sideways; and remove the needle with the hook facing backwards. Inserting the needle with the hook facing forward keeps the thread loop on the hook. Turning the hook sideways catches the thread securely. And when you remove the hook with the face backwards, you press the smooth shaft of the needle forward to open a hole in the fabric for the hook to slide smoothly from fabric and through the chain loop. The red mark that you've painted on the top of the handle (top photo, p. 37) tells you the direction that the hook faces when the needle is in your fabric, which is particularly useful when the fabric is opaque or black. The frame stays in one position and you rotate the hook as necessary.

You can work along a design line in whatever direction is comfortable. You can work a circle (see the drawing on the facing page) either clockwise or counter-clockwise. However, for ease of movement, righties should always hook the thread to the left of the design line, lefties to the right.

Beginning a line of stitching

For practicing the basic maneuvers, draw a 6-in. line on the stretched chiffon, perpendicular to the long side of the frame, with a ruler and a dressmakers' pencil. Since you sit facing a long side of the frame, the line will be pointing away from you.

Knots that are tied only in the thread would eventually pull out of the fabric under stress, so I make a knot in the fabric by stitching twice over one stitch, as described below.

The first bead will hide the knot, so you'll work the knot slightly in from the start of the design line. Insert the needle on the design line about ¼ inch from the near end with the needle hook facing left (for righties); hook the thread. (Since there's no chain loop on the hook yet, you don't

have to have the face turned forward.) Turn the needle face forward, press the back of the needle against the fabric (press towards yourself) to open the hole slightly, and slide the needle out. At the same time, pull down slightly on the thread with your left hand to maintain tension and prevent the thread from jumping off your hook as you lift your needle out of the fabric. There will be a loop of thread on the needle.

With the hook still facing forward, move forward about 1/16 inch and insert, still keeping tension on the thread with your left hand. Turn the hook sideways (left) and hook the thread. Turn the hook face backward, push the back of the needle against the fabric to open the hole (push away from yourself), and slide the needle out of the fabric and through the first loop. Keep the needle just above the fabric. Insert the needle into the first hole, hook the thread sideways, and remove the needle with the hook facing forward. Now pull the tail thread through the chain stitch and completely out of the fabric. To tighten the knot, pull the tail thread above the fabric and the spool thread underneath at the same time.

Basic beading

The three-step rhythm of the chain stitch, shown in the photo sequence at right, is: face the hook forward and insert; turn sideways and hook thread; turn backward, open hole, and remove hook.

The first bead always sits directly on top of the knot, hiding it from view. To place the bead, first insert your needle at the beginning of the design line with the hook facing sideways; hook the thread. Turn the hook forward, open the hole, and pull out the first chain stitch. With your left hand, slide a bead up and snug it to the fabric. Line the bead up with the line of stitching. Insert the needle (still facing forward), turn it sideways, and hook the thread so the bead is now held in place. Turn the hook backwards, open the fabric, and pull the needle out. From here you continue with a regular chain stitch.

Ending knot

After you've stitched the last bead on your thread, you must make an ending knot by stitching across the design line between the last two beads. You'll need to use the face of a clock for reference. The end of the line is at twelve o'clock. Slide the last loop between the last two beads as shown in the lower right photo at right. Then use two and seven o'clock, starting at two. Pull the thread with your left hand to bring the needle down to the fabric. Insert the hook at two. Turn to seven, hook the thread, open the fabric, and remove the hook. Cross to just the other side of the design line at seven, insert the needle, turn to two, hook the thread, and remove the hook. Insert on the opposite side at two, turn to seven, hook the thread, and remove the hook.

To break the thread, first pull up the thread about 5 or 6 in. Hold the spool thread tightly in your left hand, slide the loop up over the rough base of your handle, and pull both loop and thread simultaneously until the loop thread breaks. This will also tighten the knot.

Only the start

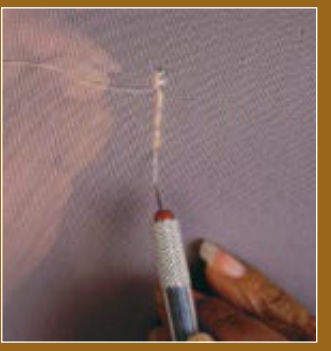
The chain stitch can be used with beads other than bugle. You can use round beads, chaining between groups of beads, rather than after every bead. I often chain beads in parallel lines or side by side with a zigzag pattern of stitches. For a look at beautiful couture examples of beading, I recommend asking your library for the out-of-print ***The Master Touch of Lesage*** by Palmer White (1987; Chêne, France). □

Jan Bryant is a professional beader and beading instructor in Los Angeles.

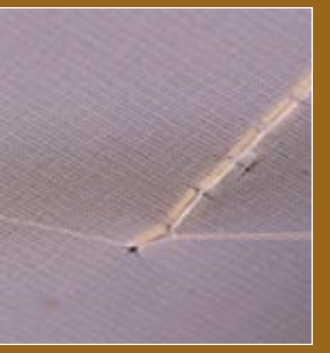
Work chain stitches from the back

1. *Insert needle with hook facing direction of stitching (in this case, down), while holding a bead snugged next to the underside of the fabric with your left hand. Note how the first bead sits on top of the beginning knot.*

2. *Turn the hook perpendicular to the stitching line (indicated by red mark) and hook the thread. Pull on the thread with your left hand underneath the fabric to keep the bead and thread from falling off the hook.*



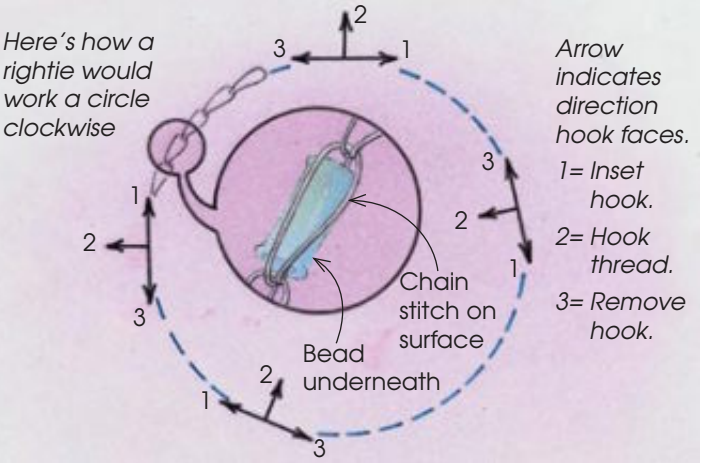
3. *Turn hook away from the direction of stitching. Push fabric open with the smooth side of the needle shaft, and pull the hook out.*



Starting an ending knot: *Slide last loop between last two beads by pulling back on the needle and pulling the thread with the left hand.*

How to turn the hook when beading curves

You can bead a circle clockwise or counterclockwise, whichever direction is the most comfortable. Righties always hook the thread to the left of the left of the design line, lefties to the right. The frame stays stationary..


Here's how a rightie would work a circle clockwise
Arrow indicates direction hook faces.
1= Inset hook.
2= Hook thread.
3= Remove hook.
Chain stitch on surface
Bead underneath

Illustrations by Clarke

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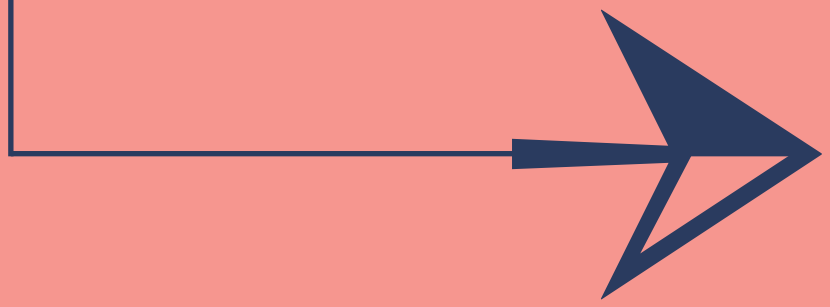
to start on
next page



Stitches for Silk-and-Metal Embroidery

Unusual threads, used alone or together, to create a special effect

by Lynn Payette (from issue #3)

Silk was cultivated in China as early as 2000 B.C. for weaving and for embroidering exquisite motifs on clothing. To enhance the beauty of the embroidery, metallic threads were added. Silk and gold threads were used on Byzantine church hangings and vestments, as they are today, and eventually decorated clothing worn in the glittering courts of Europe—vests, coats, and gloves for men, dresses and dainty slippers for women. Undergarments, and even jewelry chests, were stitched with silk threads and shiny metallics. What an exciting prospect that today we can work fine embroideries with the same fibers. In this article, I'll discuss several of the stitches shown in the sampler on page 42 to illustrate the techniques of working with silk and metallic threads, and the ways in which they can enhance your embroidery work.

Materials

Silk and metallic threads are usually available at fine needlework and craft shops, especially sewing metallics and DMC twisted cord. However, many of the threads can be bought by mail only (see list, page 45).

Silks—There are several brands of silk floss on the market, each one with its own special qualities. Ping Ling silk is especially nice to work with. It is a lustrous six-strand floss that I separate into single strands before using. Zwicky silk is also very lustrous and separates easily into single strands. Au Ver à Soie, while easier to work with because of its tight twist, is much flatter in luster than Ping Ling or Zwicky. All these silks have a beautiful color range.

Silk is a delicate fiber, so some extra care must be taken when you stitch with it. Rough hands are silk's enemy—they catch and snag it as you work. Coat your hands with Acid Mantle or a similar cream about 20 minutes before you begin.

Silk threads are about three or four times as expensive as embroidery floss and are sometimes difficult to find. Instead of silk, you may use a single strand of six-strand embroidery floss. I prefer DMC Mouline because of its semiluster.

I use silk sewing thread for tying down, or couching, the metallics. It comes on spools from Belding in a variety of shades that blend with the metallics. Since it's thin, I coat it with beeswax to make it stronger and less likely to tangle.

Metallics—There's a variety of metallic threads available, and most come in silver as well as gold. Twisted cords and sewing metallics are also available in colors.

One of the most commonly used metallic threads is Japanese gold, which consists of a thin sheet of gold wrapped around a foundation of silk threads. Sewing gold is a thin, synthetic gold wrapped on a thread core. It is sold on spools in various colors in most notions stores. This versatile metallic is an excellent addition to silk-and-metal work. Its uses are virtually endless.

Be sure your needle is large enough so the thread can pass through the hole in the fabric without peeling off its core.

Never use more than an 18-inch length of metallic sewing thread, as it will begin to wear thin and fray.

DMC twisted gold thread is a twisted synthetic, and each strand consists of a thin metallic wrapped on a thread core. These twisted cords also come in a variety of sizes and colors. Lurex twist is a heavier cord made up of several separate twisted strands, each one on a thread core. Twisted golds are good to use as stems or to outline shapes; I often use them in combination with other golds.

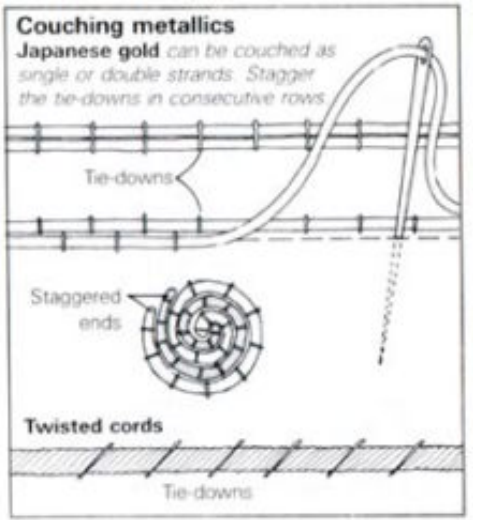
Purls, or bullions, are tightly twisted metal threads coiled into a tube. They're available with a smooth finish, known as smooth purl, with a rough crinkled finish (check purl), or as a stiff, tight coil (pearl purl). Purls are the most intriguing metal threads to use. I cut smooth and check purls into various lengths, string them on thread, and stitch them down like beads. They can be used in rows and in combination with other stitches. Don't stretch smooth or check purls, as they don't spring back. Once they are uncoiled, they're ruined. Pearl purl is a very stiff coil and should be stretched slightly before use to make it more cooperative and easier to shape and sew down.

Needles—The needles for silk and metal work vary from very fine (for silk work) to very large (for couching gold threads), but

1. *Open fly stitch in silk, outlined with couched Japanese gold tied down with silk.*
2. *Solid couched gold tied down with silk.*
3. *Open buttonhole stitch with couched Japanese gold.*
4. *Open buttonhole with smooth purls.*
5. *Satin stitch.*
6. *Battlemented couching, outlined with couched Japanese gold.*
7. *Open fly stitch with check purls.*
8. *Squared filling with silk and gold.*
9. *Squared filling with sewing gold over silk satin stitch, outlined with pearl purl.*
10. *Bricking.*
11. *Shaded laid work.*
12. *Shaded laid work with open fly stitch in sewing gold.*
13. *Solid French knots.*
14. *Fishbone stitch.*
15. *Scattered check purls, threaded onto needle and stitched down with a single stitch.*
16. *Squared filling with French knots.*
17. *Battlemented couching, outlined with chain stitch.*
18. *Closed fly stitch.*
19. *Lurex twist tied down with silk sewing thread.*
20. *Long-and-short stitch.*

After you have sunk the ends of the Japanese gold with a second needle, place tie-down stitches at equal intervals across the strands.

When you've reached the last ½ inch of the outline, cut the gold, leaving an extra 1 inch free, sink the end, and finish tying down.


Couching metallics
Japanese gold can be couched as single or double strands. Stagger the tie-downs in consecutive rows.
Tie-downs
Staggered ends
Twisted cords
Tie-downs

all have sharp points. I use No. 10, No. 9, or No. 8 crewel needles for silk work; a No. 22 chenille needle for the sewing gold; and a No. 18 chenille needle for sinking metallic threads, such as cords and Japanese gold.

Fabrics—The ground fabric is mounted and therefore won't have to be wet and blocked when the stitching is completed, so your fabric choices are endless. Depending on your design, you may choose a smooth, shiny fabric; a smooth, flat fabric; a rough fabric; or a fabric that has slubs or another interesting texture. Finely woven fabrics, silk or silklike fabrics, and antique satins are all possibilities. The color again depends on the design—silk and metal threads are very attractive on light or dark fabrics; you can even use a monochromatic color scheme, with the ground fabric and silks all various shades of one color and offset by the metal threads.

Transferring designs

Silk and metallic threads do not cover an area very quickly, so I keep the designs small and workable. They can, however, be quite intricate, because the threads are fine and the stitches somewhat delicate. Oriental and floral motifs especially lend themselves to silk-and-metal embroidery. The design on the facing page is my own.

You can transfer a design to fabric with a transfer pencil (available in notions stores) and tracing paper without a waxy finish. Trace the design on the paper backward, flip the design over onto the fabric, and iron on the transfer. The iron must be quite warm; be sure to test this method on a scrap of fabric first.

You can also place dressmaker's carbon (carbon side down) between the design and fabric, and with a sharp, hard pencil or an out-of-ink ballpoint pen, trace over the design, pressing hard. Again, test first.

A third method involves tracing the design onto a piece of sheer fabric, then basting the fabric onto the ground fabric and through the design areas. Before stitching, the sheer fabric is cut and pulled away. This is the most unsatisfactory and time-consuming method of transferring, but if you are working on a dark ground fabric, it may be the only way to apply the design.

Stitching silk and metal

Before you can begin stitching, you must decide which stitches and areas will be silk and which will be metallic. You also need to decide which areas will be filled in completely, which will be partially filled in, and which will be open. In general, solid areas of metallics should be used sparingly and offset by solid areas of silk, done in a satin stitch, for example. Here and there, open, lacy stitches, such as the open fly and couching, should be used to give the piece some airiness.

To start stitching, don't knot the end of the thread; instead, run a few stitches on a line that will be covered; splitting one of the stitches will anchor it securely. All the stitches I describe here, unless otherwise noted, are worked with a single strand of silk or metal. They're not sewn, that is, worked in and out of the fabric in one motion, but stitched with a punch-and-pull method. When working with double threads, place two separate threads in the needle rather than doubling up one thread; and if you must take out work that is unsatisfactory, cut it out rather than picking back.

Silk and metallic threads catch the light; therefore, care should be taken to use that quality to its best advantage. Satin stitch done in silk will look like two different shades of color when stitched in two different directions. All of the metallics work well by themselves or with stitches worked in silk. You can't, however, work all of these stitches in both materials—for example, you can't work satin or fishbone stitches with gold.

Couching—Many of the metallic threads, such as Japanese gold, are far too delicate to be stitched back and forth through the fabric, so they are laid on the outline or within the shape to be filled and tied, or couched, down. The ends of the gold are "sunk" through to the back of the fabric with a large needle. This needle makes a temporary hole in the fabric large enough to allow the gold to pass through without damage. (Once the gold is through the fabric, however, it is not wise to bring it back out; it cannot take that much abuse.)

A single strand of Japanese gold can be couched down to outline a satin stitch. Two pieces of Japanese gold can also be laid side by side and couched or tied down as one with gold-colored sewing thread or a colored silk, as shown in the photos and drawing above. The tie-down stitches are placed at right angles to the gold and spaced an equal distance apart. When the couching comes to within about ½ inch of the spot at which you want to end, cut the Japanese gold at least 1 inch longer than it needs to be, and sink the end to the back. Each piece of Japanese gold should be sunk separately. For successive rows of Japanese gold, stagger the tie-down stitches.

Japanese gold can also be worked in a circle. Start at the outer edge of the circle and work in toward the center. Stagger the beginnings of the two strands of Japanese gold slightly so that they do not begin right next to each other; one should be in front of the other, as shown in the drawing, to give the circle a smoother beginning. The staggered tie-down stitches will get closer together toward the center.

Twisted cords are sunk in the same manner as Japanese gold, but the tie-downs differ in that they are always stitched with the twist of the cord. The idea is to have the tie-downs virtually disappear. Use a thread that closely resembles the cord to be tied down: either sewing gold or gold-colored sewing silk for gold cords; invisible thread or a colored metallic sewing thread for colored cords.

Smooth, check, and pearl purls are not sunk to the back of the fabric. Instead, they are cut to fit exactly the line or shape desired and tied down with gold-colored silk thread or sewing gold. Remember to stretch pearl purls slightly before sewing them down and then secure them at every other crimp.

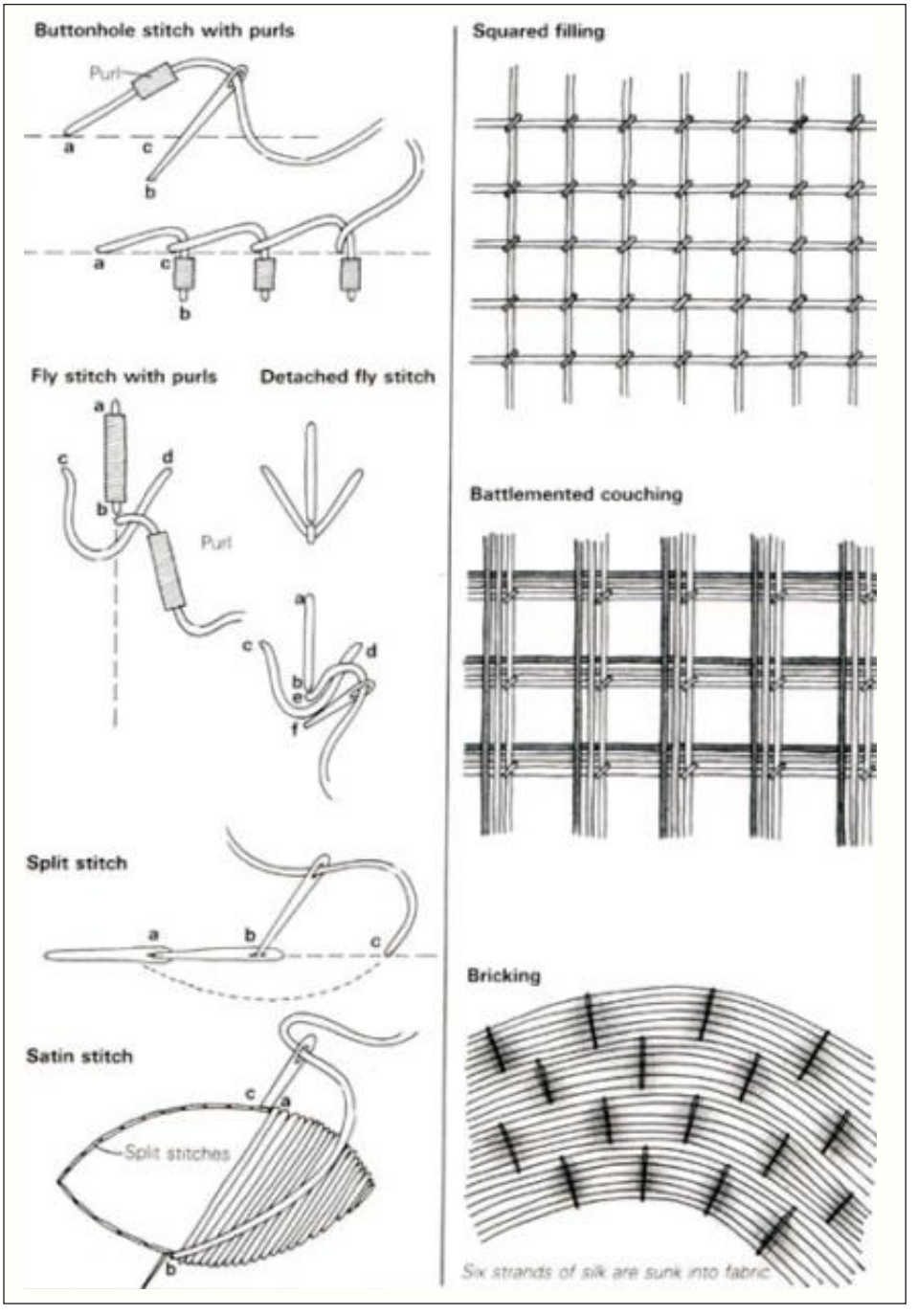
Buttonhole stitch—This is a most versatile stitch. It can be used either closed (with the stitches close together) or open (with the stitches equally spaced) in silk or sewing gold. The buttonhole stitch can also be used with Japanese gold and purls. For a closed buttonhole stitch, keep the stitches as close together as for a satin stitch; no ground fabric should show through. For an open buttonhole stitch, keep the stitches equally spaced, no more than 3/16 inch. Japanese gold may be couched down under and inside the ridge of open buttonhole for an interesting effect (see sampler, page 42). Couch the Japanese gold first with silk sewing thread, and then work the button-hole stitch over it.

Smooth or check purls may also be worked into an open buttonhole stitch, as shown in the drawing below. Before putting the needle in at *b* to create the L-shape in the stitch, place a purl (cut to the length of the buttonhole stitch) on the thread. Then go in at *b* and come up at *c* and push the purl down to *b* before pulling the thread up snugly. This is a little tricky, but it's well worth the effort.

Squared filling—This technique may be done with either silk or sewing gold, or with a combination of both. The stitch consists of a series of parallel lines that cross each other at right angles and are tied down at the intersections in a variety of methods. The most important thing is to keep all of the lines parallel and equidistant from each other. (Sometimes I use a Lucite ruler so that I can better see where I should place the stitches.)

Squared filling is nice over a satin stitch, especially when it's done with sewing gold. The parallel lines do not, however, need to be tied down, because the gold clings to the satin stitch and stays where it's been put. There is also a danger of distorting the satin stitch if you stitch gold through it to make tie-downs.

Battlemented couching is a form of squared filling in which several shades of a color are laid next to each other. The vertical and horizontal stitches of one color are completed before another shade begins. When the desired number of shades has been used (usually three to five), only the last two threads in each grouping are tied down, with a tiny stitch at their intersection.



Split stitch—This simple stitch, shown in the drawing at left, is used alone for lines or in rows for a textured filling. Before I make a satin stitch, I split-stitch around the outline to give the satin a finer edge. Bring the needle out at *a*, in at *b*, out at *c*, and then in again to pierce the *a*-*b* stitch.

Satin stitch—The satin stitch is a filling stitch and the backbone of much silk-and-metal work. Take care to place the stitches side by side to get maximum coverage with the minimum number of stitches. There should be no stitches piling atop each other, in other words, coverage but no bulkiness. Work the stitch by coming up outside the split stitch, across the shape, and again to the outside of the split stitch, as shown in the drawing. (The split stitch will be covered completely when the shape is filled in.) Cutting a shape in half or cutting it at its widest point with the first stitch helps to establish a direction for the satin stitch. I also find that leaves filled in "on the slant" fill better and look smoother. Hint: Keep your needle perpendicular to the fabric as you go in and out, and the edge of the satin stitch will be much smoother. A

Lynn Payette.

satin stitch that is well done sets off metallic threads exquisitely.

Fly stitch—Like the buttonhole stitch, the fly stitch can also be done closed or open. Closed, it makes a superb leaf stitch (the stitches must be placed as close together as satin stitches). Open fly is lovely and lacy by itself, either in silk or sewing gold; it is also effective when worked over satin stitch with sewing gold.

Smooth or check purls can be placed on the center stitch of the open fly as it is worked (see drawing, facing page). When making the *a-b* stitch, place a purl on the thread. The fly stitch may also be done de-tached. The center stitches only tie down each loop—they don't connect with the next center stitch—but a purl can be placed on each of the tie-downs.

Bricking—Bricking is an attractive textured stitch, done with silk, and I often use it either for filling or in rows next to metallic. It is similar to couching metallics. Before working this stitch, separate four to six strands and put them back to-gether; this adds fullness to the stitch. The strands are sunk, and then they are tied down at equal intervals so the threads are flattened—take care not to pinch the strands with the tie-downs. Successive rows are laid close to each other, and the tie-down stitches are placed in between the tie-down stitches of the previous row. Tie-downs can be worked with the same color thread as the couched threads, with a contrasting color, or with sewing gold. When working a pointed leaf or shape, stagger the ends of the rows of couching threads to prevent a lumpy, rounded ending.

Lynn Payette, of Wethersfield, CT, teaches silk-and-metal embroidery, crewel, stump-work, and mixed media snitcher. Photos by Judy Donizettti.

Sources of supply

The companies that are listed below have silk-and-metal embroidery supplies available. Ask for their catalog and their price lists for silk and metallic threads.

American Crewel and Canvas Studio
P.O. Box 453
Canastota, NY 13031

Craft Gallery Ltd.
P.O. Box 541
New City, NY 10956

The Needlecraft Shop
P.O. Box 1406
Canoga Park, CA 91304

The World in Stitches
P.O. Box 198, Osgood Rd.
Milford, NH 03055

Framing Up

Before you can begin to stitch, you must stabilize the ground fabric by attaching it to a taut backing fabric on a working frame. You'll nee firm muslin or broadcloth, four artist's wooden stretcher strips, four thumbtacks, strong lacing thread, and a staple gun or more thumbtacks. Figure on stretcher strips at least 6 inches longer than the design on all sides for ample working area.

Put the stretcher strips together. Then cut the muslin to the exact width of the frame opening and 2 inches longer at each end than the length of the strips. Turn under the long edges 1 inch and machine-stitch. Place the short edges over the short stretcher strips, and staple or tack them in place. Pull the muslin tightly and staple the second side. Next, lace the sides, using a strong thread and sharp needle. After lacing, pull the thread tightly, and wrap the ends in a figure-eight motion around the thumbtacks. The backing fabric should now be very taut.

Place the ground fabric with the design applied to it on the backing, and position it carefully so that the grain lines of both are in the same direction. Place four pins on the outside four corners to stabilize the fabric. Then fold a tissue-paper strip several times for thickness. Stitch the paper around the design area with white sewing thread and two rows of running stitches or a herringbone stitch. This will keep the backing and ground fabrics together while you are working.

You can also use a strong wooden hoop for silver-and-metal embroidery, but only for small projects, as the image area cannot be kept uniformly firm and taut if it is too large. The backing fabric is placed in the hoop as tightly as possible, and the ground fabric is basted to it. (The ground fabric does not get into the hoop.) Make sure the grain lines of the backing fabric and ground fabric are all in the same direction.

There are three types of frames available for holding your working frame stable while you stitch: floor models and folding frames. All of them free both your hands for stitching. The folding, or portable, frame I use is called a Needle Easel. It has a hinged slat that you sit on to stabilize the frame while you are working. The table model I use, made by Gripit Company, attaches to the edge of a table, and the same company also makes a floor stand, which is what I prefer to use. Are available for American Crewel and Canvas Studio, listed in the sources of supply on this page.

A C-clamp, which you can find in any hardware store, can be sued in place of any of these frames. Lay one edge of the working frame on the edge of the table, and clamp the frame and the table together.

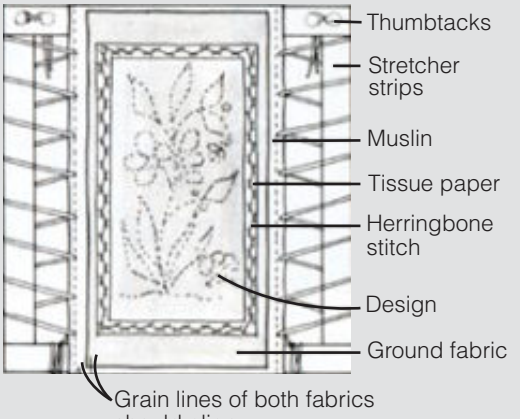
Finishing and Mounting

After your silk-and-metal embroidery is completed, and before it can be mounted and framed, the back of the piece must be cleaned up. With silk sewing thread, simply overcast stitch any loose gold or silk threads to the stitchery on the back. The piece is now ready to be mounted.

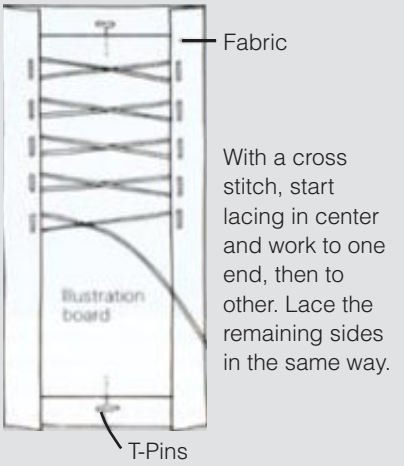
I have found that double-weight illustration board makes the best mounting board. It can be purchased in any arts-and-craft store in a sheet large enough to provide mounting boards for all your silk-and-metal projects. I also occasionally pad a silk-and-metal piece with a nonwoven felt-type batting to absorb any lumps on the back. The padding is laced over the illustration board, and the piece is laced over that.

To lace, first lay the board on the back of the piece, and secure it with four T-pins. With unwaxed dental floss or a strong thread, lace back and forth from one side to the other in a cross stitch, pulling tightly, as shown in the drawing below. Start in the center and work to one end; come back to the center again and work to the other end. Lace the other two sides in same way, and the piece is ready to be placed in a frame and hung with pride. ❑

Frame assembly



Mounting


Fabric
Illustration board
T-Pins
With a cross stitch, start lacing in center and work to one end, then to other. Lace the remaining sides in the same way.

Handmade Fabric Jewelry

Create the perfect match for the outfits you love

Diane Ericson holds a cardboard pattern for an earring up to her face (above) to see if she likes the shape, and to experiment with possible curves she could create with dipped acetate. To shape cutout acetate pieces, dip them in boiling water to soften the plastic (below), then hold them in position at room temperature for a few moments until they cool.

Cut a window in the shape of the acetate underlayer (below) to isolate designs within larger surfaces, patterns, and images.

by Diane Ericson (from issue #38)

Here's a quick and flexible process you can use to make earrings, pins, and other jewelry from fabric, to complement your clothing creations. All you need is a little acetate, some glue, the findings (like pin backs or earring posts) for the ornament you want to make, and a palette of fabrics and treasures from which to choose for your design.

The idea is simple: I cut out a shape I like for my ornament from acetate (a clear plastic film), then cover one side of the acetate with fabric, sometimes gluing on other decorative elements. Then I glue the finding to the other side and cover that (with a little hole or slit in the covering for the finding to poke through) to finish the piece. The variations and possibilities are endless, and each stage in the process is an opportunity for inspired design, as you'll see.

Materials

I use acetate (sometimes called shrink-art plastic) because it's lightweight and because I can shape it in hot water, as I'm doing in the top photo at right, to create more interesting forms. It's available in hobby, art supply, and drafting shops. It comes in sheets and pads (a single sheet will make lots of earrings), and in several thicknesses; get size .003. Findings are available from the catalog sources listed on p. 49, and everything else should be easy to find locally. There's also a discussion of appropriate glues on p. 49.

Decorative materials are everywhere: besides fabrics, there's leather, papers (including printed images and patterns), metals, cords, shells, hardware, old buttons and jewelry, and on and on. I consider everything fair game, from high-tech garbage to beach combings. Jewelry making can be a recycler's dream.

Fabric-covered plastic, found objects, and readily obtainable findings produce easy-to-make, coordinated accessories, like the earrings on the facing page.

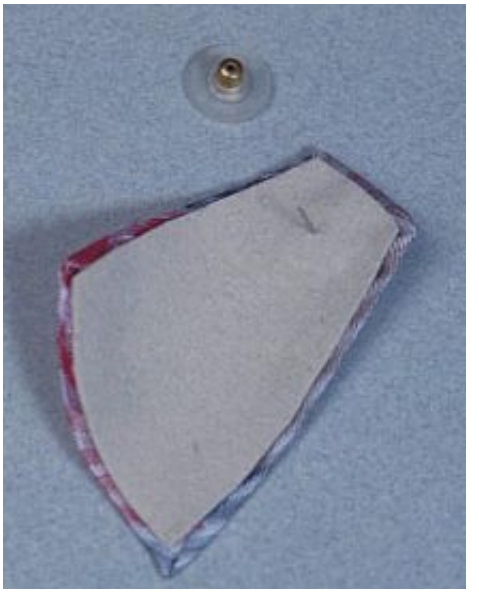
Designing

There are two parts to designing these decorative pieces: designing the shape, and designing the coverings. I start with the fabric and little treasures I use as coverings, because they often suggest a shape, but you can start with either process.

Assembling a palette—I like to make choices that play out a design idea, either by looking for elements that complement one another, or by creating contrasts. A process I like because it stimulates me to see combinations I might not have thought of is to gather a wide variety of potential items that are interesting together. I go with my gut responses, keeping it

Gathering complementary (or contrasting) objects along with likely fabrics is a good beginning for the design process. A few works in progress (left) reveal possibilities beyond covered plastic, still easily assembled without specialized skills or materials.

Once the appropriate finding has been glued to the back of the acetate layer (below), Ericson covers the back, usually with a cutout scrap of Ultrasuede or leather.



Layering two or more covered acetate shapes in a single piece (left) is an easy way to arrive at complex outlines. The grain of the covering fabric can be manipulated to create interesting lines. Fabric can be shredded, folded, twisted, and wrinkled as it is wrapped around the acetate (right). There's no law that earring pairs must be identical; Ericson's are usually variations on a theme.

simple and direct—no evaluating practicality. I spread my treasures out and look at them for a while, moving pieces around, creating pleasing alignments. As I close in on an idea for the design, I clear away elements that don't carry or improve the energy of the piece, then set my chosen materials aside. The top photo above shows a few pieces in progress that are evolving from materials gathered this way.

Designing shapes—A technique I use for designing the shape of a piece is to cut some potential shapes out of paper, perhaps starting with an earring or pin whose shape I'd like to duplicate, or with a shape in the fabric, whether it's printed, woven in, or stenciled on. I hold the shapes up to my face, as I'm doing in the middle photo on p. 47, or to a garment, turning and curving the paper to see all the possibilities. I ask myself if the shape complements the shape of my face. Do I want it more curved, more angular? Simple shapes, without a lot of deep curves and angles, are easiest to cover. Overlapping two or more shapes, as in the earrings in the left-hand photo just above, can create interesting results, and this may be a simpler way of creating complex outlines. It's worth taking some

time to play with different ideas and combinations, because the shape of your piece is the basis of your design.

Once you decide on a shape, cut it out of acetate and, if you decided on a curved shape, create the curve in boiling water. Fill a pan 2 to 3 inches deep, and when the water's at a rolling boil, dip your acetate form in, holding it in the shape you want with wooden clothespins. Hold it in the water for 10 to 15 seconds and continue holding the curve as you take the shape out. As it hits the air and starts to cool, it will hold the new shape. It doesn't take a lot of bend to make an interesting shape. Hold the curved piece up to you to confirm that it's what you want. You can redip and bend three or four times; after that the acetate begins to get brittle.

Using design windows—While your acetate shape is drying, play with a design tool I call a "window." Cut out a hole in paper from a tracing of the original shape. This hole, or window, lets you reframe what you see. You can move the window over fabrics, papers, photos, or anything to find a design or texture that speaks to you, as I'm doing in the bottom photo on p. 47. A single fabric or decorated surface can yield dozens of options. As you lay the window over your fabric or paper, wonderful designs immediately become easy to see. You can also lay the window over folds, edges, and wrinkled textures. When you find the design you want, cut it out; if it's fabric, allow ½ inch or ¼ inch extra all around, to fold to the back of the acetate. You can drop the original pattern piece into the window, holding it in place as you remove the window; then mark a cutting line around it.

Assembling the design

For best results, apply your adhesives to the acetate, rather than to the covering material. To adhere fabric or paper, I use spray adhesive or white glue. Spray on just a light coat, or apply a small dot of glue and spread it around evenly. I lay my covering material face down on a clean surface and press the glue-covered acetate onto it. Wrap it around to the back and run a thin line of glue around the edge of the back to hold it down. If you have corners, you can get a clean, precise edge by mitering the fabric or paper, folding it like gift wrap. If you want a flat, clean fold on a curve with paper, you'll need to clip the folding allowances, just like in a sewing project. With fabrics, you may not need to clip, depending on the grain at the edge.

I like to experiment with the grain of loosely woven fabrics by twisting, distorting, and fraying scraps big enough to cover the shape, as in the earrings shown in the photos on the facing page. Try covering part of your plastic with one material and layering another material over the rest of it. Multilayered pieces with staggered edges showing can be wonderful.

Polyester and other synthetics can be challenging to fold; they tend to pop back. You can sandwich the glued piece between larger layers of acetate and clothespin them together until they dry. Once it's covered, the shape is a canvas for further collage and a perfect lightweight support for anything else you want to add.

Findings and backings

I glue the finding to the back of the bottom-most acetate layer. Its position on the piece need not be the exact center; in fact, that's often not the best design solution. Holding the piece up to your ear again (if it's an earring) will help you decide. Pin backs usually work best near the top of the piece, especially if the pin is heavy. The Quick Stik Dot (see suppliers list at right) is a terrific instant adhesive. It's a sticky, dense foam pad that comes in dots or strips. You peel off the paper cover, press your finding onto the sticky pad, peel off the backing, and apply the sticky surface to your piece. You only get one chance, so be sure you know where you want to put the finding. It won't stick to dusty or wet surfaces.

I like to use leather or Ultrasuede for the backing, as in the top right photo on the facing page, but paper also makes a nice, light finish. With thin fabrics or papers, you can cut out backings from the same material as the front. Make the backs from your original pattern or window, trimming off the edges slightly, unless you want them to show from the front. What if you cut it bigger and fold the edges over onto the front? What if you attach beads to the edge, or a thin line of paint? The possibilities are endless. Don't put on beading until you're sure that you've got everything on the front that might want to wrap around and be enclosed between the layers. When you're ready to attach the backing, poke a tiny hole in it for the post, or make slits for a pin back or clip-ons. Apply adhesive, slip the backing over the finding, and allow to dry. You can protect the finished piece with plastic coating spray if it's paper, or Scotch-Guard if it's fabric.

Diane Ericson wrote about stenciling on fabric in Threads, *No. 28. For workshop information, write to her at 26075 Atherton Dr., Carmel, CA 93923.*

Adhesives for jewelry

Spray adhesives. These are excellent for attaching fabrics, leather, and paper to plastics but aren't as good for spot use because the spray pattern is hard to control. Use in a ventilated area, and cover or remove anything you don't want to get adhesive on.

White glues. These can be used to generously coat edges and surfaces for dipping into crushed shells, sand, beads, and other granular substances. You won't get an instant bond, so pieces need to be left to dry, preferably overnight.

Hot glue. Dispensed from electrically heated guns, this is perfect for attaching anything when you need instant setup. The glue remains flexible when dry, so it's a good choice for attaching strings and ribbons, or beads, shells, etc., to a flexible surface.

Epoxy. This makes a very strong permanent bond; it comes in two parts which form glue and harden quickly when mixed. Get the five-minute type. It's ideal for bonding heavy things like stones or metals to inflexible surfaces.

Jewelers' cement. Available from finding suppliers and catalogs, this makes an excellent clear and permanent bond between stones and metal surfaces.

Fab Tac. This brandname product needs to be used with proper ventilation. It can be used instead of white glue; it sets up quickly, won't bleed through fabrics, dries clear, is very tacky, and works well with synthetic fabrics. *–D.E.*

Jewelry findings and supplies

Greiger's
900 S. Arroyo Pkwy.
PO Box 9370
Pasedena, CA 91109
(800) 362-7708 in CA.
(800) 423-4181 outside CA.
Write for free catalog; phone for orders.

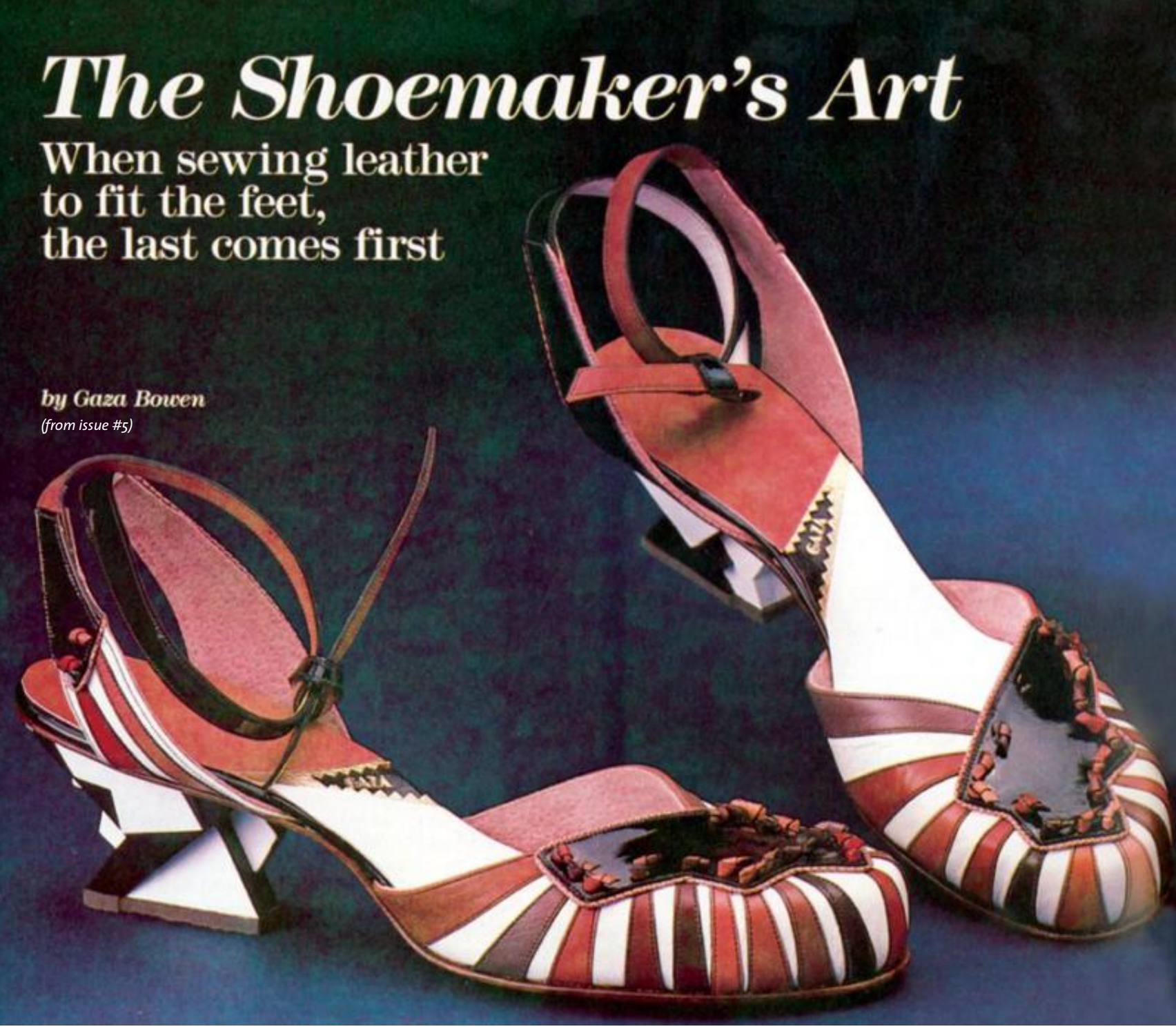
Optional Extras
150A Church St.
Burlington, VT 05401
(802) 658-0013
Send $1.50 for catalog.

Rio Grande
6901 Washington NE
Albuquerque, NM 87109
(800) 545-6566
Distributor—for Quick Stik Dots; call for retail sources.

The Shoemaker's Art

When sewing leather to fit the feet, the last comes first

by Gaza Bowen
(from issue #5)



In most people's minds shoes are not made, they're born—springing from factories fully formed. But I make shoes. I build them by hand, using antique tools and simple machines. Starting with paper and lasts and vague ideas, I cut uppers from kidskins and lizard hides, and I construct heels from blocks of wood, Plexiglas, or found objects.

In the early part of the last century, all shoes made in the United States were handcrafted. The machines that would eventually replicate the hand processes were just beginning to be invented. The tools being used were almost identical to those used by shoemakers for thousands of years. But as shoemaking became industrialized during the 1800s, the shoemaker became a specialized machine operator performing one small part in the many steps toward building a shoe. The few who still made shoes by hand were pushed into a corner of the marketplace, offering their skills and expertise to a select group who could appreciate and afford handmade shoes.

Remarkably enough, these skills survive. Shoemakers today cater mostly to special-interest groups, producing such footwear as cowboy boots, traditional business shoes, and therapeutic footwear. Some have learned their trade as a family tradition, some have apprenticed themselves to masters, and some of us have acquired knowledge wherever we could find it.

Learning about shoes—I have studied old texts, examined museum collections, worked in the repair trade, compared notes with other shoemakers, and invented my own solutions to unanswered questions. In retrospect, my education reads like a history of shoe-construction methodology. I began 17 years ago by making the most elementary type of footwear: the sandal. As a self-taught sandalmaker, I began to see the subtleties in comfortably covering the human foot. Principles of fit and construction

emerged as I perfected my designs and dealt with customers' real feet.

After working with sandals for several years, I progressed to the moccasin. Here, the fit and shape of the shoe are created by the cut of a flat, abstract pattern. I was influenced by ethnic footwear in both method of construction and surface embellishment. Looking at shoes from other cultures, I became fascinated by the diversity of materials and concepts that have been explored, and by the importance that most peoples have placed on the appearance of their shoes. Some of the moccasin patterns I used were traditional; others I devised. Both provided me with a structure for exploring my medium—shoemaking.

In 1976 I studied with a bootmaker from Colonial Williamsburg. It was there that I was introduced to the method of shoe construction known as lasting, where the shoemaker creates the fit and shape of the shoe by molding the material over and around a foot-shaped form, or last. I was taught the use of antique tools I had been collecting for years and the meaning of words and phrases I had overheard or read. Using materials similar to those available in the 1700s, I built three pairs of colonial footwear. This concentrated and focused instruction gave me a foundation upon which I could build as I continued to evolve into a 20th century shoemaker.

Much of my knowledge about modern shoes has come from the many years I spent repairing them. I handled hundreds of shoes weekly. I tore them apart and put them back together; I saw weaknesses in some designs, strengths in others; I kept a sketch book, recording ideas for future use. I learned to use various machines (like the line finisher, a shaft with sanding wheels and polishing belts) and man-made composite materials; and through daily repetition I honed my skills and felt the joy of physical process in the perfection of my craft. Machines became an extension of my hands, like the other tools of my trade.

In the summer of 1984, at Davis Shoe Therapeutics in San Francisco, I was fortunate enough to meet a culturally diverse group of five shoemakers willing to share their knowledge with me. As important as the technical information exchanged was their confirmation of my feeling that shoemaking is an intuitive craft; best learned through meticulous observation. The best teacher is experience itself.

Building a shoe—A shoe falls into one of two general categories, based on construction method. Either it has been molded around a last (lasted), or it has not. Most shoes in Western cultures have been made on lasts. American Indian moccasins are a familiar example of shoes built without the use of a last.

There are many methods of construction for a lasted shoe—each with its advantages. In the method I most often use, the upper is placed on the last, and the edges are pulled around and under the last and attached to the insole with contact cement. "Cement lasting," as it is called, the most

Three circumference measurements and a tracing of the foot (above left) are compared with a standard last (above right). Each last will be modified with leather or cork to match the foot.

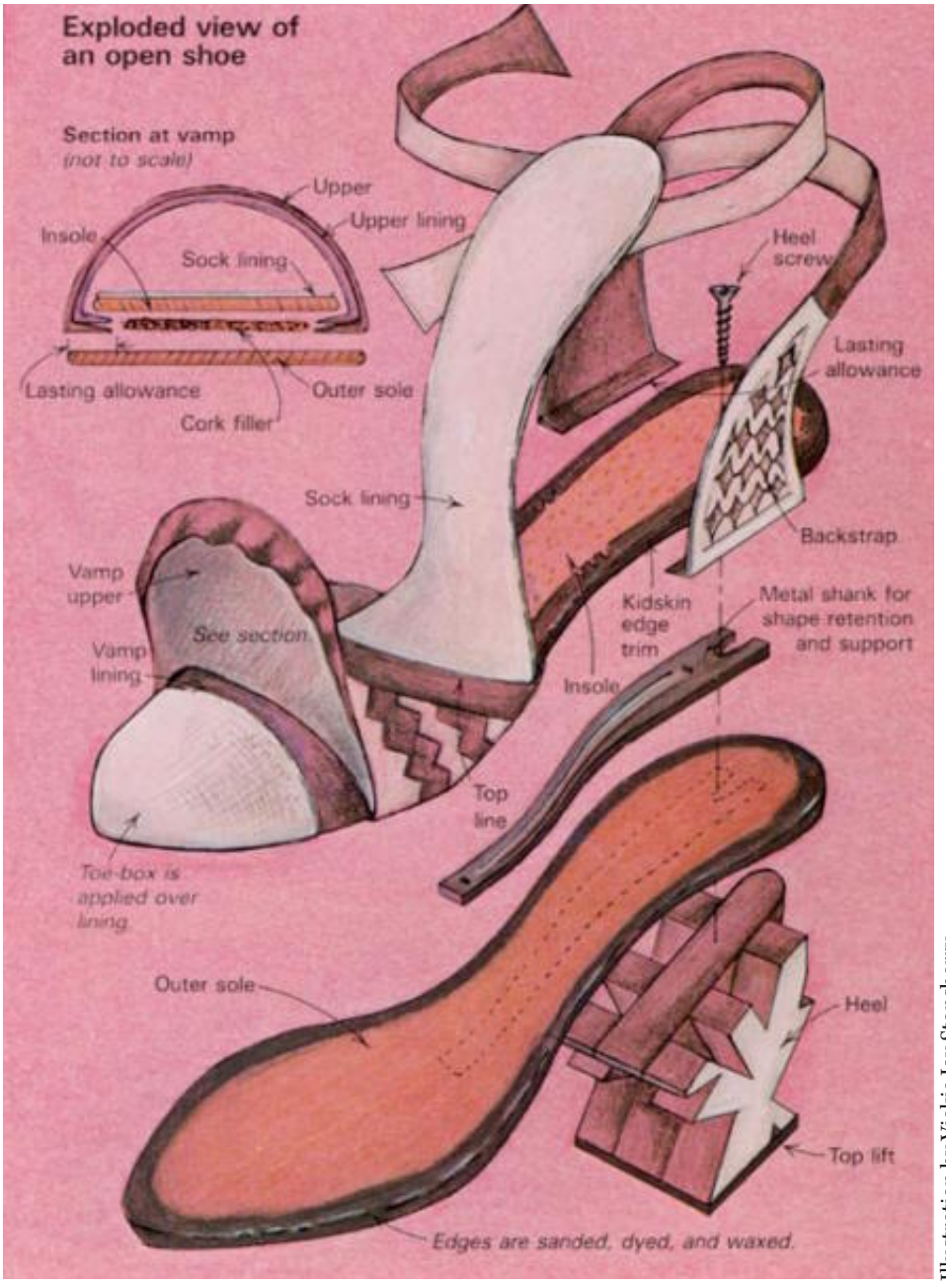


Illustration by Vickie Joy Stansberry

The laminated insole, wetted and tacked to the bottom of the last, has dried, conforming to the proper shape. Bowen trims it even with the last.

Bowen designs the uppers by drawing on either tissue paper or brown paper that is draped over the last.

The drawings are refined to annotated patterns (above) from which Bowen cuts her leather. At right, she plaits leather strips for a triangular area of the upper.

The beginning of a three-dimensional shoe: The upper, with lining sewn in, is wetted and positioned for lasting. Masking tape marks the center and vamp height on the last.

common method for making women's dress shoes, has been possible only since the invention of modern super adhesives.

A proper last. Lasts come in all shapes and sizes. Some of them are wooden, others are plastic. Both the fit and comfort of the shoe begin with the proper last. The shoe's length, width, heel height, and toe shape are all determined by the last. From the hundred or so pairs of lasts that I own, I must choose the one last that will work with my intended design and fit my customer's foot or the standard size that I have decided to make. If I am working on a commission, I take three measurements of foot circumference, and I make a drawing of both footprints. I then compare the lasts with these measurements, and I glue on bits of leather or cork to provide the proper fit. Once I have chosen and customized the lasts, I can begin to form the insoles. I make both shoes at the same time.

The insole. For the insole, I laminate a thin layer of cork to oak-tanned cowhide, wet it, and tack it to the last bottom all around the edges. In this way, the insole conforms to the subtle curves and planes of the last bottom, which is essential for fit and comfort. When the insole is dry, I trim it flush with the edge of the last. The insole (tacks removed) will become a permanent part of the shoe when the upper, brought around the last, is cemented to it. For an open shoe, I wrap the exposed edges of the insole in kidskin.

The uppers. When I design a shoe, I start by sketching my idea onto canvas or paper that I've draped over the last. I then refine my sketch and dissect it into the various pieces to be cut from leather. On my patterns I note seam and hem allowances, piping placement, and surface treatment. Color selection is important. For a commission, I may be selecting my colors from a given range. The shoes I'm making in these photographs were commissioned in black and white, so I could put the element of color aside and concentrate on texture, line, and contrast.

I cut the pieces for my shoe uppers from kidskins and exotic leathers (snake, lizard, ostrich, etc.). I store my leather in bundles of similar hue so I can quickly see all my options in one color range. Once I've chosen the hides and carefully cut the pieces, I hand-skive (pare) the seam allowances so overlapping seams will be flush with the surface. I also make pipings, turn or paint edges, and manipulate the surface according to my pattern notes.

The sewing machine I use was designed to sew the uppers of cowboy boots. It has wheels instead of feed dogs to give a fine controlled stitch (up to 20 stitches to the inch) as I assemble the pieces into a completed upper and attach the pigskin lining along the top line (finished opening).

Lasting. The lasting process comes next. This is the moment when the shoe takes shape, a magical time when a nearly fiat, shapeless piece of leather is transformed into a shoe. I tack the dampened upper into position on the last. With lasting pincers, I pull and stretch the lining to fit

closely into the hollows and curves of the last (top-left photo, this page), bringing the leather's inherent elasticity to a delicate balance, to produce a shoe that neither pinches the foot nor stretches excessively when worn. Tacks temporarily hold the lining in place until it is dry, when I will cement it permanently to the insole.

Between the lining and the upper, over the toe area, I cement a stiffening material called Ruflex to create the toe box, which helps the shoe retain its shape when worn. If I am making a closed shoe or a boot I will also cement a similar material (heel counter) around the heel area for shape retention, foot support, and stability. I oven-heat this high-tech material and form it directly over the lining. Once in place, it becomes a permanent part of the shoe, adding resiliency and longevity.

The upper can now be lasted. I pull the dampened upper into shape and temporarily tack it in place. When it's dry, I contact-cement it permanently to the insole and trim it fiat with the last bottom. The shoe is now ready for the outer sole. If I'm making an open shoe with backstraps, I attach the straps to the insole at this time.

Outer sole. I cement a metal shank be-tween the insole and the outer sole to re-tain the shape of the last at the arch and support the foot from the ground to the raised heel. I fill the hollow created by the lasting allowance under the ball area of the foot with a bit of thin, flexible cork (see drawing, page 51). Then I cut the outer sole to shape from oak-tanned soling leather and split it to the desired thickness. After sanding, dyeing, and waxing the edges of the sole, I attach it to the bottom of the shoe with contact cement.

Heels. Next, I make a heel of proper height and balance for the shoe. If the heel is to be covered in leather or painted, I first shape it of wood. For the commission in black and white, I cut three shapes in birch wood for each heel, which I sanded and laminated together and painted with enamel. I often use objects and materials that complement the overall design of the shoe. Wine corks, wooden dice, Plexiglas spheres, and cow horns have all been incorporated into the heels of my shoes.

Now I remove the last. For me, this is the birth of the shoe. After working with it as a flat plane, then as a solid and somewhat heavy object, it becomes a hollow, light container ready to fulfill its function. Most lasts are hinged at the center so the heel portion can be brought up and closer to the toe, making it possible to slip the last out of a completed shoe or boot. "Breaking the last" isn't necessary on open-back shoes.

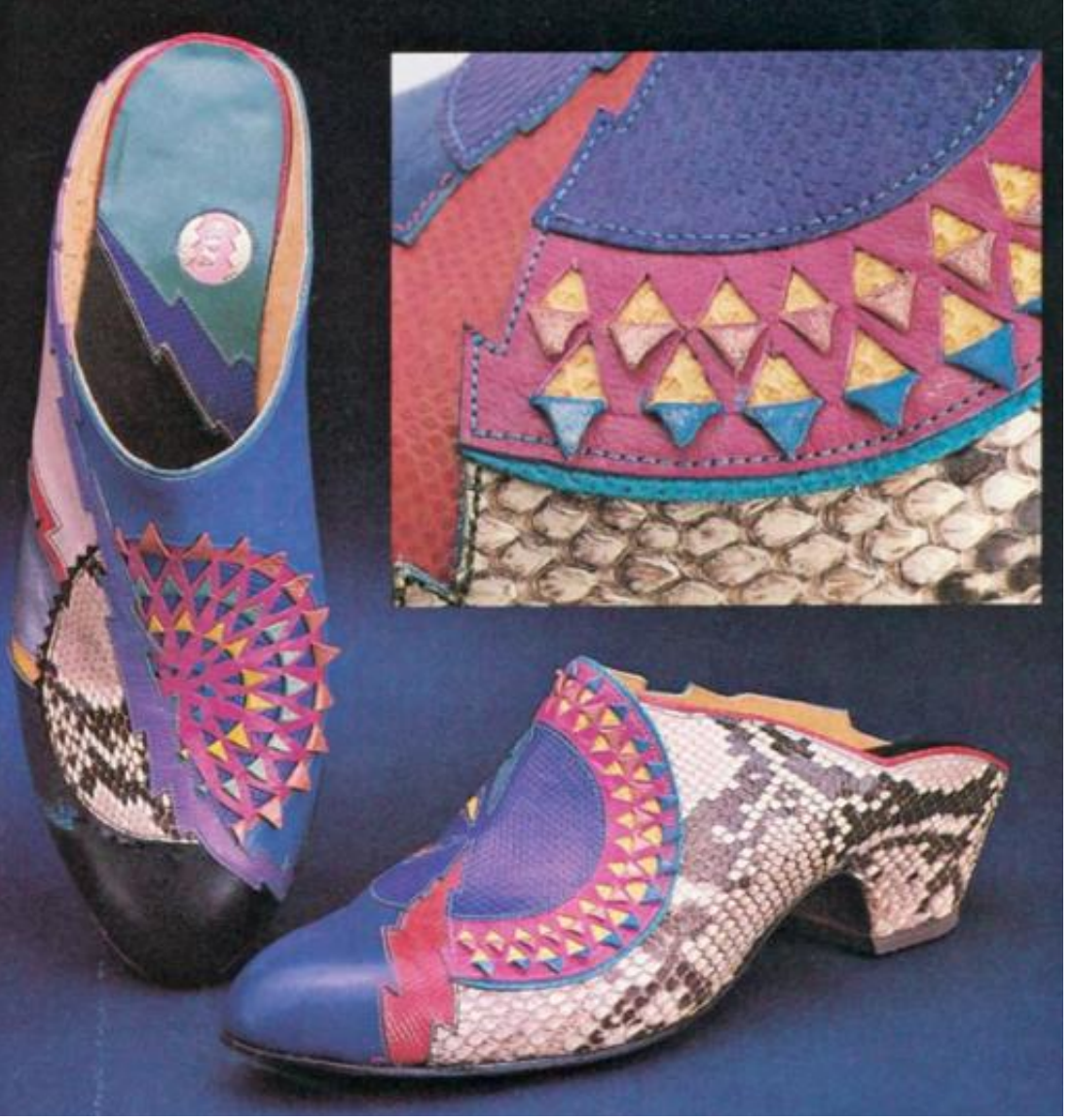
With the last removed, the heel can be screwed and nailed to the shoe through the insole. The heel bottom is protected from wear with a leather or rubber "top lift." The final step in building a shoe is inserting the sock lining, or leather covering, for the insole—hiding screw and nailheads and providing a comfortable surface on which the sole of the foot will ride.

About my shoes—I sign and date all my shoes and often give them a title. Although

The lining is lasted first, with pincers (top shoe, above left). A toe box is cemented between lining and upper before the upper itself is pulled tight. (left shoe, above right).

Backstraps have been lasted, and the straps and vamp have been cemented to the insole. The shank is contact-cemented in place, and the prepared outer sole is ready to be attached (above left). When that is done, the shoe is removed from the last and the heel is screwed on (above right).

The insole is covered with a foot-cushioning sock lining.



"Lightning Strikes Twice" is an experiment with a new profile, where the heel is attached to the insole and lasted into the upper. These shoes explore the way circles open and conform to the shoe profile. Bowen achieved the detailing (inset) by cutting V's into the leather, then wet-forming them open and painting the suede side; snakeskin is inlaid under the triangular holes.

my work is functional, the process feels more like inquiry. Each pair has seemed like a puzzle to solve, with some solutions more successful than others. The stimulus may come from a found object, a phrase or joke, an unexplored technique or material. I sometimes make preliminary sketches, but I do most of my work right on the last. Often I find that I've designed, completed, and delivered a pair of shoes with no record or drawing other than my paper patterns. I resist doing tests and mock-ups, preferring to charge ahead, with the risk of failure barely visible through the excitement.

When I work on commission, I accept some limitations, such as heel height and perhaps color range. I try to make a shoe that's sensitive to my customer's taste, but one that's also detailed and exciting for me.

I am interested in the history of shoes, in the evolution of shoe fashion and function, and in the eccentricities of the shoe world. This ongoing inquiry into the relationship between people and shoes has led me most recently to the exploration of shoes that are not wearable.

Shoemaking is the medium I use to explore concepts and experiment with materials. I'm intrigued by the sculptural nature of shoes, their psychological power, their potential: Sometimes they're my canvas, other times my clay. Sometimes I love them, other times I hate them, but making shoes is my way of keeping life interesting. ❑

Gaza Bowen lives in Santa Cruz, CA, where she makes custom shoes, about a pair every three weeks. For the past few years she has been teaching shoemaking and presenting slide shows about her work, the history of shoe fashion, and the freaks and oddities of the shoe world. Photos pages 51–53 by Dennis Wheeler. Photos pages 50, 54, and 55 by Michael Kirkpatrick.

For "K. Lee, You're on Your Own," Bowen appliquéd images of San Francisco. Coit Tower and the Golden Gate Bridge beckon gaily. The wine-cork heels are a personal twist of the traditional use of cork in shoemaking.

With "Loligo Sandalia" (right), Bowen (above) steps into the realm of unwearable shoes.

"Originally, I had envisioned the wedges in "Wedge-A-Matics' of shiny appliance chrome. I enrolled in a moldmaking/casting class at the local community college to learn the necessary skills. Several months later, I came to the realization that after casting and chromeplating, each wedge would weigh seven pounds." Bowen returned to her studio and made them of wood, linoleum, Krazy Glue, and aluminum spray paint.